

V. *Report on a Collection of African Locustidæ formed by Mr. W. L. Distant, chiefly from the Transvaal.* By WILLIAM F. KIRBY, F.L.S., F.E.S.

[Read February 5th, 1902.]

THE present paper completes my preliminary report on Mr. Distant's collection of African Orthoptera. The *Locustidæ*, by which I understand the grasshoppers and true migratory Locusts, with short antennæ, are both numerous and easily collected; and therefore the number of species and specimens in collections usually exceeds those of other families of Orthoptera. Mr. Distant's collection includes a considerable number of new species, here described, which will, it is hoped, be illustrated, in due course, in the forthcoming parts of his *Insecta Transvaaliensia*.

I have also taken the opportunity of introducing occasional synonymic notes and corrections, and notices of some additional species recorded from the Transvaal, but not obtained by Mr. Distant. Thus enlarged, the present paper enumerates 125 species, and a few obscure or immature forms remain over for further consideration.

In all, two new genera and thirty-three new species are characterized in the present paper, of which seven new species are described under each of the two genera *Chrotogonus*, Serville, and *Viphicra*, Lamarck.

LOCUSTIDÆ.

ACRYDIIDÆ

Cladonotinæ.

Genus TRACHYTETTIX.

Trachytettix, Stål, *Œfv. Vet. Akad. Förh.*, xxxiii (3), p. 57 (1876); Bolivar, *Ann. Soc. Ent. Belg.*, xxxi, p. 213 (1887).

1. *Trachytettix bufo*.

Tettix bufo, Costa, Ann. Mus. Nap., ii, p. 58 (1864).

Trachytettix bufo, Bolivar, Ann. Soc. Ent. Belg., xxxi, p. 213 (1887).

Cladonotus horridus, Walker, Cat. Derm. Salt., v, p. 844, n. 8 (1871).

Trachytettix scaberrimus, Stal, Öfv. Vet. Akad. Förh., xxxiii (3), p. 37 (1876).

Hab. TRANSVAAL: Zoutpansberg (*Kaessner*), Sterkfontein (*Thomassen*); NATAL (*Gucinzius*); LAGOS (*Strachan*); DAMARALAND; SOMALI (*Bolivar*).

Acrydinae.

Genus ACRYDIUM.

Acrydium, Geoffroy, Hist. Ins., i, p. 390 (1762); Fabricius, Syst. Ent., p. 278 (1775); Leach, Edinb. Encycl., ix, p. 120 (1815), *nce* Latreille.

Tetrix, Latreille, Hist. Nat. Crust. Ins., iii, p. 284 (1802).

Tettix, Fischer, Orth. Russ., p. 346 (1846), *et auct.*

2. *Acrydium condylops*.

Tetrix condylops, Gerstaecker, Arch. f. Nat., xxxv, p. 221 (1869); Von der Decken's Reisen, iii (2), p. 48 (1873).

Tettix villata, Walk., Cat. Derm. Salt., v, p. 821, n. 43 (1871).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*); NATAL (*Gucinzius*); WANGA (*Gerstaecker*).

This species appears to have been overlooked by Bolivar in his monograph.

3. *Acrydium latipes*.

Tettix latipes, Stal, Öfv. Vet. Akad. Förh., xxxiii (3), p. 56 (1876); Bolivar, Ann. Soc. Ent. Belg., xxxi, p. 261 (1887).

Hab. TRANSVAAL: Pretoria, Waterberg, Warm Baths (*Distant*), Zoutpansberg (*Kaessner*).

Described by Stal from Damaraland.

4. *Acrydium distanti*, sp. n.

Long. corp. 10-13 millim.

Dark brown, slightly varied with reddish in the male, the whole body very thickly and finely granulated, with several large granules on the sides of the pronotum, and on the upper surface of the hind femora. Antennæ short, 14-jointed, the last joint long and pointed. Frontal ridge forming a long narrow fork as far as the middle of the vertex. Pronotum as long as the abdomen, the central carina considerably raised, but only slightly curved; the lateral carinæ in front well-marked, and parallel. Legs rather hairy; front femora almost cylindrical; middle femora broader and flatter; hind femora very broad, ending in a slightly projecting tooth above, preceded, in the male, by a very small one. Hind tibiæ with a double row of rather large spines, 9 on the outer and 7 on the inner edge. Hind tarsi with the first joint very finely serrated above, tripartite beneath, and considerably longer than the 2nd and 3rd together. Ovipositor of the female very large and conspicuous, strongly denticulated beneath. Tegmina and wings not visible.

Hab. TRANSVAAL: Zoutpansberg (*Kaessner*, ♂), Rustenburg (*Distant*, ♀).

Genus PARATETTIX.

Paratettix, Bolivar, Ann. Soc. Ent. Belg., xxxi, p. 270 (1887).

5. *Paratettix scaber*.

Acrydium scabrum, Thunberg, Nova Acta Upsal., vii, p. 157 (1815).

Tettix scaber, Stål, Rec. Orth., i, p. 149 (1873).

Paratettix scaber, Bolivar, Ann. Soc. Ent. Belg., xxxi, p. 279, n. 18 (1887).

Var. *Tettix subpustulata*, Walk., Cat. Derm. Salt., v, p. 819, n. 40 (1871).

Hab. TRANSVAAL: Pretoria (*Distant*), Zoutpansberg (*Kaessner*), Barberton (*Rendall*); CENTRAL AFRICA; Fort Johnston, NYASALAND (*Rendall*).

A long series of this extremely variable species.

6. *Paratettix carinata*, sp. n.

Vertical carina produced backwards over the pronotum and the basal part of the suture of the tegmina in a moderately high and

gradually-rounded crest. General colour red or grey; antennæ yellow, blackish towards the tip. Head and pleura mostly black; pronotum and basal half of tegmina usually bordered by a very distinct yellow line, and the curve of the yellow border of the tegmina is filled up by a long black stripe on each side. Hind femora blackish on the inside, and striated with black above. Tegminæ subacuminate, extending for nearly half their length beyond the abdomen; wings still longer.

Long. corp. 9-10 millim; cum alis 12-14 millim.

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*).

A somewhat variable species, but recognizable in obscurely marked specimens by the raised and regularly curved carinæ.

Genus COPTOTETTIX.

Coptotettix, Bolivar, Ann. Soc. Ent. Belg., xxxi, p. 287 (1887).

7. *Coptotettix infausta*.

Tettix infausta, Walk., Cat. Derm. Salt., v, p. 820, n. 42 (1871).

Hab. TRANSVAAL: Pretoria (*Distant*); S. AFRICA (*Dr. A. Smith*); NATAL (*Gueinzius*).

A rather large specimen, without locality, in the British Museum, is labelled "Aquatic."

PNEUMORIDÆ.

Genus CYSTOCÆLIA.

Pneumora (Cystocælia), Serville, Ins. Orth., p. 713 (1839).

8. *Cystocælia inanis*.

♂. *Gryllus inanis*, Fabricius, Syst. Ent., p. 827 (1775).

♀. *Pneumore scutellaire*, Latreille, Cuvier, Règne Anim. (ed. 2), iii, pl. xix, f. 1 (1830).

Pneumora scutellaris, Burmeister, Handb. Ent., ii, p. 164, n. 10 (1838); Serville, Ins. Orth., p. 713 (1839).

♂ and ♀. Grahamstown (*Schonland*).

There is an immature female, apparently belonging to this species, in the British Museum, which was catalogued

by Walker as *Pneumora ocellata*, Thunberg, a species belonging to the genus *Bulla*, L. The specimen catalogued by Walker as *P. scutellaris* is a female of *Cystococlia scæguttata*, Thunberg, of which *Pneumora obliqua*, Thunberg, is also an immature female form.

MASTACIDÆ.

Genus PLAGIOTRIPTUS.

Plagiotriptus, Karsch, Entom. Nachrichten, xv, p. 8 (1889).

9. *Plagiotriptus hippiscus*.

Choratyppus hippiscus, Gerstaecker, Arch. f. Nat., xxxv, p. 218 (1869); Von der Decken, Reisen in Ost-Afrika, iii (2), p. 42, pl. ii, fig. 8 (1873).

Plagiotriptus hippiscus, Karsch, Ent. Nachr., xv, p. 8 (1889).

Hab. NYASALAND: Fort Johnston (*Rendall*); Mombasa (*Gerstaecker*), Zomba (*Whyte*, B. M.), Samburu, B. E. AFRICA; collected in November 1896 (*Betton*, B. M.).

TRYXALIDÆ.

Genus ACRIDA.

Gryllus (Acrida), Linnæus, Syst. Nat. (ed. x), p. 427 (1758).

Acrida, Stål, Rec. Orth., i, pp. 88, 95 (1877).

Tryxalis, pt. Fabricius, Syst. Ent., p. 279 (1775).

Tryxalis, Bolivar, Feuille Nat., xxiii, p. 41 (1893).

The type of *Tryxalis* has been fixed as an American species; the types of *Tryxalis*, Blanchard, belong to the next genus, and therefore *Acrida*, Linnæus, must be retained, with *A. turrita*, Linnæus, as the type.

A. turrita, Linnæus, and *A. gigantea*, Fuessly, are usually united under the name of *A. nasuta*, Linnæus; but they appear to be distinct, and the true *A. nasuta* belongs to the following genus.

10. *Acrida turrita*.

Gryllus (Acrida) turritus, Linnæus, Syst. Nat. (ed. x), i, p. 427, n. 12 (1758).

Acrida turrita, Stål, Rec. Orth., i, p. 96, n. 3 (1873).

Hab. TRANSVAAL: Pretoria (*Distant*), Waterberg, Warm Baths (*Distant*), Barberton (*Rendall*); NATAL: Durban (*Ross*); PEMBA ISLAND (*Burt*); NYASALAND: Zomba (*Rendall*); MOZAMBIQUE: Mopea.

A common African species, with uniform green tegmina, and the lateral carinæ of the pronotum not bordered with black. The wings are transparent, more or less tinged with green or yellowish.

11. *Acrida gigantea*.

Truxalis giganteus, Fuessly, Archives, p. 173, pl. 52, f. 6 (1791).

Tryxalis bilineatus, Thunberg, Mém. Acad. Pétersb., v, p. 266 (1815); Nova Acta Upsal., ix, p. 82 (1827).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*); NATAL: Durban (*Ross*); NYASALAND: Fort Johnston (*Rendall*).

Often confused with the last species, but appears to be distinct; it is found in Africa and the Mediterranean region. The tegmina are green or pale brown, with pink or brown longitudinal markings; the head and pronotum are longitudinally striped with rose-colour on the sides and sometimes on the median line; the lateral carinæ are generally bordered within with black lines, and the wings are tinged with yellowish.

12. *Acrida rendalli*, sp. n.

Long. corp. 60 millim; exp. al. 120 millim.

Female. Head and thorax green. Frontal protuberance extending beyond the eye to about $\frac{2}{3}$ of the length of the latter, with parallel sides, and cut off almost square at the extremity, its lateral margins, in front of the eye, brown. Antennæ with the basal joint testaceous, the rest wanting. Behind the eye runs a very pale yellow lateral stripe, broadening behind, to the extremity of the head; it is bordered beneath by a slender black line. It is continued by a similar pale yellow band on the thorax, below the lateral carinæ. This band is obsolete before and behind, as is also a black line bordering it below. The lateral carinæ are yellow, and bordered above with slender black lines, obsolete behind; the lower terminal lateral carinæ are yellow, unmarked with black. The hinder part of the prothorax is slightly expanded above, convex and slightly longitudinally striated; the front of the head and the hinder part of the

prothorax are marked with a slight median carina, otherwise obsolete. Abdomen brown (perhaps reddish in life?) above, and buff below. Tegmina green, except the tips, which are lilac (perhaps discoloured?); there are traces of an interrupted brown longitudinal stripe. Basal half of wings and principal nervures throughout clear rose-colour, unspotted; outer half hyaline. Longitudinal and transverse nervures towards the tips mostly green; transverse and intercalated nervures mostly blackish in the middle, and reddish towards the anal angle. Legs green, tarsi rufo-testaceous.

Hab. TRANSVAAL: Barberton (*Rendall*).

It is extremely difficult to determine the number of species in this group, and the present insect would perhaps be regarded by some entomologists as a red-winged variety of *A. turrita* or *gigantea*.

13. *Acrida aspersata*, sp. n.

Long. corp. 64 millim; exp. al. 110 millim.

Female. Head, thorax, legs and tegmina green. Head with a single black lateral line behind the eye, thorax with double black lines, meeting in front, obsolete behind, and bordered with yellow lines, on the upper and middle lateral carinæ. Hinder part of thorax slightly expanded, pointed behind, and longitudinally striated. Abdomen and hind femora greenish and buff, with black longitudinal spots on the back. Tegmina green, the costa edged by a black line; a central longitudinal black stripe, undulated and filled up with yellow lines above, and broken into spots at $\frac{2}{3}$ of the length of the tegmen. Wings rose-colour, except on the apical third, where they are greenish-hyaline; and with most of the interspaces between the transverse nervures marked with small blood-red spots.

Hab. EAST AFRICA: Masongolem, 3000 feet (*Scott Elliot*) (Brit. Mus.); TRANSVAAL, Barberton (*Rendall*).

The species is described from Mr. Scott Elliot's specimen. Mr. Rendall's is more faded; but the head, prothorax, and tegmina are striped with rose-colour, and the space below the wings is marked obliquely with black and rose-colour. In the other specimen, it is indistinctly marked with green and black.

14. *Acrida acuminata*.

Acrida acuminata, Stål, Rec. Orth., p. 97 (1873).

Hab. TRANSVAAL: Barberton (*P. Rendall*).

One specimen, differing from Stål's description in wanting the dark lines towards the tips of the wings.

15. *Acrida sulphuripennis*.

Tryxalis sulphuripennis, Gerstaecker, Arch. f. Nat., xxxv, p. 215 (1869); Von der Decken's Reisen, iii (2), p. 33, pl. iii, fig. 1 (1873).

Hab. TRANSVAAL: Pretoria (*Distant*); NATAL: Durban (*Distant*); ZANZIBAR (*Gerstaecker*).

One of the smaller species of the genus, and apparently not very common.

16. *Acrida madecassa*.

Tryxalis madecassa, Brancsik, Jahresb. Ver. Trencsen, xv, p. 186 (1893).

Hab. NYASALAND: Fort Johnston (*Rendall*).

A single example, agreeing with specimens in the British Museum from Madagascar.

17. *Acrida rufescens*.

Tryxalis rufescens, Palisot de Beauvois, Ins. Afr. Amér., p. 17; Orth., pl. ii, fig. 2 (1805).

Acrida rufescens, Stål, Rec. Orth., i, p. 97 (1873).

Hab. NYASALAND: Fort Johnston (*Rendall*).

A well-known West African species.

Genus TRYXALIS.

Tryxalis, Blanchard, Hist. Nat. Ins., iii, p. 36 (1840).

Acridella, Bolivar, Feuille Jeune Nat., xxiii, p. 41 (1893).

18. *Tryxalis nasuta*.

Gryllus (Acrida) nasutus, Linnaeus, Syst. Nat. (ed. 10), i, p. 427, n. 11 (1758).

Hab. TRANSVAAL: Rustenburg (*Distant*).

A single pair. The male (from Rustenburg) has pale yellow wings; the female (without locality) has the base of the wings tinged with purple and red, and many of the longitudinal nervures red. The male is very similar to *A. variabilis*, Klug, and has no red or vinous colour on the hind wings; but the two insects exhibit so many points of resemblance that I have ventured to put them together.

19. *Trypvalis serrata*.

Trypvalis serratus, Thunberg, Mém. Pétersb., v, p. 269 (1815);
Nov. Acta Upsal., ix, p. 84 (1827).

Acrida serrata, Stål, Rec. Orth., i, p. 100 (1873).

Trypvalis nasuta, Blanchard, Hist. Nat. Ins., iii, p. 36, pl. 10,
fig. 1 (1840).

Trypvalis constricta, Schaum, Peters' Reise Mossamb., v,
p. 129, pl. vii A, fig. 1 (1862).

Trypvalis lativitta, Walk., Cat. Derm. Salt., B. M., iii,
p. 496, n. 8 (1870).

Hab. TRANSVAAL: Pretoria (*Distant*).

Genus AMYCUS.

Stål, Öfv. Vet. Akad. Förh., xii, p. 353 (1855); Rec.
Orth., pp. 89, 100 (1873).

Parga, Walker, Cat. Derm. Salt., iii, p. 804 (1870).

20. *Amycus rhodiopterus*.

Amycus rhodiopterus, Stål, Öfv. Vet. Akad. Förh., xii,
p. 353, n. 2 (1855).

Hab. TRANSVAAL: Pretoria, Masil. Nek (*Distant*); Port
Natal (*Stål*).

Genus PHLEOBA.

Gomphocerus (Phlæoba), Stål, Eugenie's Resa, p. 340 (1860).

Phlæoba, Stål, Rec. Orth., i, pp. 92, 107 (1873).

21. *Phlæoba basalis*.

Opomala basalis, Walk., Cat. Derm. Salt., iii, p. 510, n. 20
(1870).

Phlæoba chloronota, Stål, Öfv. Vet. Akad. Förh., xxxiii (3),
p. 48 (1876).

Phlæoba virilula, Krauss, Sitzungsber. Math. Nat. Cl. Wien,
lxxvi (1), p. 52 (1877).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*);
DELAGOA BAY (*Distant*); NYASALAND: Fort Johnston
(*Rendall*).

22. *Phlæoba interlineata*.

Opomala interlineata, Walk., Cat. Derm. Salt., iii, p. 510, n. 21 (1870).

Phlæoba viridula, var. *liturata*, Bol., Journ. Sci. Lisb. (2), i, p. 98 (1899).

Hab. TRANSVAAL: Pretoria; and another female specimen without special locality (*Distant*); NATAL (*type*); NYASALAND (B. M.).

This species is common in Nyasaland, where the black stripes are a little narrower than in the type from Natal. Bolivar regards it as a variety of *P. chloronota*, Stål (= *Opomala basalis*, Walker), which he and Krauss incorrectly regard as identical with *Truxalis viridula*, Beauv., which is really a synonym of the American *T. brevicornis*, Linn.

One specimen from Pretoria differs in having a broad double black band on each side of the central line on the hinder half of the vertex; in wanting the usual black lines on the pronotum; and in the hind femora being blackish on both sides. But without a long series of specimens from the same locality, to show variation, and to check the effects of possible discoloration, it is difficult to deal with Orthoptera satisfactorily.

Genus DURONIA.

Duronina, Stål, Bihang Vet. Akad. Handl. (4), v, p. 21 (1876).

The types of this genus are *D. semicarinata*, Gerst., and *D. chloronota*, Stål, the latter of which is a synonym of *Phlæoba basalis*, Walk.; but Brunner employs the name for some Burmese species which are not congeneric.

23. *Duronina stenoptera*.

Chrysochraon stenopterus, Schaum, Mon. Berl. Akad., 1853, p. 779; Peters' Reise nach Mossamb. Zool., v, p. 133, pl. vii A, fig. 4 (1862).

Chrysochraon semicarinatus, Gerst., Arch. f. Nat., xxxv, p. 218 (1869); Von der Decken, Reisen, iii (2), p. 39 (1873).

Hab. TRANSVAAL: Eureka near Barberton (*Rendall*); MOZAMBIQUE (*Schaum*); WANGA (*Von der Decken*).

24. *Duronia tricarinata*.

Duronia tricarinata, Bol., An. Soc. Esp., xix, p. 312 (1890).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*); Zoutpansberg (*Kaessner*); ASHANTI (*Bolivar*).

Genus ORTHOCHTHA.

Orthochtha, Karsch, Berl. Ent. Zeitschr., xxxvi, p. 177, note (1891).

25. *Orthochtha dasyncnemis*.

Chrysochraon dasyncnemis, Gerst., Arch. f. Nat., xxxv, p. 217 (1869); Von der Decken, Reisen in Ost-Afrika, iii (2), p. 38, pl. iii, fig. 2, 2a (1873).

Hab. NYASALAND: Fort Johnston (*Rendall*).

Genus PARACINEMA.

Paracinema, Fischer, Orth. Eur., p. 312 (1870); Stål, Rec. Orth., i, pp. 91, 103 (1873).

26. *Paracinema tricolor*.

Gryllus tricolor, Thunberg, Mém. Acad. Pétersb., v, p. 245 (1815), ix, p. 419 (1824).

Paracinema tricolor, Brunner, Prodr. Europ. Orth., p. 97, pl. iv, fig. 26 (1882).

Hab. TRANSVAAL: Pretoria, Masil. Nek (*Distant*); NYASALAND: Fort Johnston (*Rendall*).

A common species throughout a great part of Southern Europe, Asia, and Africa. The full synonymy is given by Brunner.

Genus PNORISA.

Gomphocerus (Pnorisa), Stål, Eug. Resa, p. 341 (1860).

Pnorisa, Stål, Rec. Orth., i, pp. 93, 107 (1873); Efv. Vet. Akad. Förh., xxxiii (3), p. 47 (1876).

27. *Pnorisa squalus*.

Gomphoceris (*Pnorisa*) *squalus*, Stål, Eug. Resa, p. 341 (1860).

Pnorisa squalus, Stål, Öfv. Vet. Akad. Förh., xxxiii (3), p. 48 (1876).

Hab. TRANSVAAL: Pretoria (*Distant*); CAPE (Stål); B. C. AFRICA, Baringo (*Betton*).

28. *Pnorisa capensis*.

Stenobothrus capensis, Walk., Cat. Derm. Salt., iv, p. 764, n. 62 (1870).

Hab. TRANSVAAL: Pretoria (*Distant*); S. AFRICA (*Trimen*).

Very similar to the last species, but darker and less distinctly marked.

Genus DIABLEPIA, g. n.

Fastigium nearly as long before the eyes, as the head behind them; convex on the median line to the extremity, where it is subcarinated, and curves slightly downwards; the carina is slightly oval, rounded in front, and there is a slight depression between it and the median elevated front of the head. Middle carinae of the face meeting in a point above, but subparallel below, slightly approximating in the middle at the frontal ocellus. Lateral carinae of the face slender, starting from below the antennae, and curving slightly outwards at their lower extremity. Antennae about 21-jointed, ensiform, broadest and flattest towards the base. Pronotum $\frac{1}{4}$ longer than the head; about twice as long as broad, with three well-marked carinae, the lateral ones slightly converging on the hinder part; transverse sutures barely indicated. Outside the central carinae are two additional rudimentary carinae, parallel, and slightly indicated to the front of the fastigium of the vertex, where they meet in a point. Antennae inserted close to, and just below the front of the eyes; face much sloped, deflexed sides of pronotum less so, forming an obtuse angle in front, and almost a right angle behind; lower side nearly straight, hinder edge of pronotum above slightly projecting behind, almost rectangular, but with the angle rounded off at the extremity. Tegmina rather longer than the abdomen, femora and tibiae rather hairy, femora not very thick, about as long as the abdomen, with the pattern on the outer median area irregular, the angles

being very acute, and the series of upper and lower raised lines being separated by a longitudinal waved line. Tibiæ as long as the femora, with about eleven spines on each side.

Allied to *Phlæoba* and *Duronia*, from which it is at once distinguished by the depression on each side of the fastigium not meeting in front.

28A. *Diablepia viridis*, sp. n.

Long. corp. 24 lin.

Grass-green; antennæ, except the basal joint, ferruginous or blackish; costa and extremity of the tegmina, upper side of the hind femora, and probably more or less of the wings, pale rose-colour; in one specimen the space between the inner rudimentary carinæ of the head and pronotum is filled up by a narrow cream-coloured, or very pale yellow stripe, which is continued along the suture of the tegmina. Head and sides of pronotum with numerous fine irregular reticulations. Spines of hind tibiæ pale yellow, tipped with black. First joint of tarsi about as long as the two following ones together, bilobate beneath; second rather shorter than the third, and slightly produced beneath at the extremity.

Hab. TRANSVAAL: Pretoria (*Distant*).

Genus GYMNOBOTHRUS.

Gymnobothrus, Bolivar, Journ. Sci. Lisboa (2), i, p. 100 (1889).

29. *Gymnobothrus linea alba*.

Bolivar, l. c. (1889).

Hab. TRANSVAAL: Pretoria (*Distant*).

Appears to be a common species.

Genus CHORTOICETES.

Chortoicetes, Brunner, Ann. Mus. Genov., xxxiii, p. 123 (1893).

30. *Chortoicetes prasina*.

Epacromia (?) *prasina*, Walk., Cat. Derm. Salt., iv, p. 770, n. 9 (1870).

Hab. TRANSVAAL: Pretoria (*Distant*); CAPE COLONY: Cape Town (*Trimen*), Grahamstown (*Schonland*).

One of the commonest grasshoppers at Pretoria. It is very probably identical with *C. socius*, Stål, in which case the latter name should be retained. The specimens vary a little in size, pattern and the colour of the legs, but appear all to belong to the same species.

One specimen is labelled: "With swarm of red locusts, Pretoria, November 1894."

31. *Chortoicetes plena*.

Epacromia plena, Walk., Cat. Derm. Salt., iv, p. 969, n. 8 (1870).

Acridium (*Edipoda*) *caliginosa*, var. β , De Haan, Verhand. Orth., p. 162 (1842).

Hab. TRANSVAAL: Pretoria, Rustenburg, Waterberg, Warm Baths (*Distant*).

32. *Chortoicetes minusculus*.

Stenobothrus minusculus, Walk., Cat. Derm. Salt., iv, p. 763, n. 61 (1870).

Hab. NYASALAND: Fort Johnston (*Rendall*); CAPE (*Trimen*).

LOCUSTIDÆ.

Genus COSMORHYSSA.

Cosmorhyssa, Stål, Rec. Orth., i, pp. 116, 121 (1873);
Saussure, Mém. Soc. Genève, xxviii (9), pp. 50, 123
(1884), xxx (i), pp. 18, 37 (1888).

33. *Cosmorhyssa fasciata*.

Gryllus fasciatus, Thunberg, Mém. Acad. Pétersb., v, p. 230 (1815); ix, p. 403 (1824).

Cosmorhyssa fasciata, Stål, Rec. Orth., i, p. 121 (1873);
Saussure, Mém. Soc. Genève, xxviii (1), p. 124 (1884).

Gryllus sanguineus, Thunberg, l. c., v, p. 231 (1815); ix, p. 404 (1824).

Edipoda strigata, Serville, Ins. Orth., p. 726 (1839).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*); DELAGOA BAY (*Distant*); PEMBA ISLAND (*Burt*); NATAL; KILIMANJARO; SIERRA LEONE; GABOON (B. M.);

NYASALAND: Fort Johnston (*Rendall*); BRITISH CENTRAL AFRICA: Zomba (*Rendall*).

A common and widely distributed African species. Mr. Distant's is a very pale specimen, and had perhaps been some time on the wing when captured.

34. *Cosmorhyssa sulcata*.

Gryllus sulcatus, Thunberg, Mém. Acad. Pétersb., v, p. 234 (1815).

Cosmorhyssa sulcata, Stål, Rec. Orth., i, p. 122 (1873);
Saussure, Mém. Soc. Genève, xxviii (9), p. 124 (1884).

Hab. TRANSVAAL: Pretoria (*Distant*).

Genus GASTRIMARGUS.

Gastrimargus, Saussure, Mém. Soc. Genève, xxviii (9), pp. 109, 110 (1884), xxx (i), p. 37 (1888).

35. *Gastrimargus determinatus*.

Pachytylus determinatus, Walker, Cat. Derm. Salt., v, Suppl., p. 72 (1871).

Edaleus verticalis, Saussure, Mém. Soc. Genève, xxviii (9), p. 111 (1884).

Hab. TRANSVAAL: Pretoria, Masil. Nek (*Distant*); NATAL: Knysna, Marabastaat (B. M.).

36. *Gastrimargus marmoratus*.

Gastrimargus marmoratus, var. β , Thunberg, Mém. Acad. Pétersb., v, p. 232 (1815); ix, p. 411, pl. 14, fig. 4 (1824).

Pachytylus (*Edaleus*) *marmoratus*, Stål, Rec. Orth., i, p. 123 (1873).

Edaleus marmoratus, Saussure, Mém. Soc. Genève, xxviii (1), p. 112 (1884).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Distant*); NYASALAND: Fort Johnston (*Rendall*).

A common species throughout the warmer parts of the Old World.

37. *Gastrimargus acutangulus*.

Pachytylus (*Edaleus*) *acutangulus*, Stal, Rec. Orth., i, p. 125 (1873).

Hab. TRANSVAAL: Pretoria? (*Distant*) CAFFRARIA (*Stål*).

Mr. Distant's collection contains a single damaged specimen of this beautiful species, without precise locality. It is quite distinct from the species which Saussure describes under the same name; for Stål's species has blue wings, and Saussure's yellow wings. As Stal's description is short, and Saussure's applies to another species, I add here a full description of Mr. Distant's specimen.

Long. corp. 40 millim. ; long. pron. 10 millim. : lat. pron. 8 millim.

Female. Intermediate between *G. determinatus*, Walker, and *G. marmoratus*, Thunb., but nearer to the former. Ground colour testaceous; the central and lateral carinæ of the vertex very slightly indicated, but visible; a double black line before and behind each eye; a brown streak, commencing in a point, just above the central ocellus, on the frontal ridge; and a slightly-indicated brown line bordering the sides of the ridge on the outside; lower orbits, mandibles, and an oblique stripe on the cheeks from the upper surface of the mandibles, black. Antennæ, except two pale basal joints, wanting. Pronotum granulated, with the central carina considerably raised, and the hinder angle long and acute, as in *G. determinatus*; central carina pale yellow, narrowly bordered on the sides with blackish, the upper stripe from the eye continued to the first sulcus, and followed by another black stripe, tapering at each extremity; the lower line from the eye expands into a black triangle, scarcely continued beyond the principal sulcus, and surrounded by yellowish, which takes the form of an angulated stripe above it, and an irregular band below, from the first sulcus to the hind margin of the pronotum. Below it is another triangular black spot, extending from the fore border of the pronotum to the principal sulcus, and marked behind at the lower angle by a yellow spot. Abdomen shining black above, and testaceous below, and on the sides, which exhibit a double row of black dots. Legs rufo-testaceous; hind femora spotted with black on all the carinæ; the inside black, with light blue transverse bands; hind tibiæ and tarsi red, the spines of the tibiæ yellowish, and tipped with black. Tegmina brown towards the base, the costal area varied with yellowish subhyaline; the anal area darker yellowish above, and brown at the base and below; the intermediate basal area brown, varied by a

double row of whitish spots; the apical portion of the wing subhyaline, with two large transverse black blotches, enclosing more or less transparent spaces; the second is indeed almost divided into brown and transparent longitudinal streaks, connected by a brown transverse band on the inner side; and it is followed by two series of long brown stripes on the nervures; (extremity of the tegmina broken). Wings with the basal third white, with strongly-marked blue nervures, which are sufficiently close together at the base to give the wing a distinctly blue appearance at that point; this inner portion of the wing is bordered by a very broad blue-black band, extending from the costa, and covering a considerable portion of the hind margin as far as the anal angle; the outer part of the wing transparent, with brown nervures, varied in the upper portion by pale yellow ones: beyond which are three irregular brown longitudinal stripes, but the extremities of the wings, as well as of the tegmina, are wanting.

Described from a single broken specimen from the Transvaal, without special locality. The markings of the femora alone are sufficient to distinguish it from *G. dohrnianus*, Sauss., which has also blue hind wings.

37A. *Gastrimargus dohrnianus*.

Edaleus (*Gastrimargus*) *dohrniannus*, Saussure, Mém. Soc. Genève, xxx (1), p. 166 (1888).

Hab. TRANSVAAL (Dohrn's collection).
Not in Mr. Distant's collection.

Genus *ÆDALEUS*.

Edaleus, Fieber, Lotos, iii, p. 126 (1853); Stål, Rec. Orth., i, p. 123 (1873); Saussure, Mém. Soc. Genève, xxviii (9), pp. 110, 115 (1884), xxx (1), pp. 18, 37, 40 (1888).

38. *Edaleus flavus*.

Gryllus (*Locusta*) *flavus*, Linnæus, Syst. Nat. (ed. x), i, p. 433, n. 53 (1758); (Pet. Gaz., pl. 3, fig. 6, *fig. typ.*).
Acrydium nigrofasciatum, De Geer, Mém. Ins., iii, p. 493, pl. 41, fig. 5 (1773).
Pachytylus (*Edaleus*) *nigrofasciatus*, Stål, Rec. Orth., i, p. 126 (1873).

Æduleus nigrofasciatus, Saussure, Mém. Soc. Genève, xxviii (9), p. 116 (1884), xxx (1), p. 40 (1888).

Hab. TRANSVAAL: Pretoria (*Distant*); CAPE COLONY: Grahamstown (*Schonland*).

A common species throughout the warmer parts of the Old World. Petiver's figure, which must be taken as typical of Linné's *flavus*, appears to represent this species.

Genus LOCUSTA.

Gryllus (Locusta), Linnæus, Syst. Nat. (ed. x), p. 431 (1758); Schrank, Enum. Ins. Austr., p. 246 (1781); Samouelle, Ent. Compend., p. 218 (1819).

Gryllus, Fabricius, Syst. Ent., p. 287 (1775), *haud recte*.

Acrydium, Latreille, Hist. Nat. Crust. Ins., iii, p. 282 (1802), *nee* Geoffroy.

Pachytylus, Fieber, Lotos, iii, p. 21 (1853); Stål, Rec. Orth., i, pp. 116, 122 (1873): *et auct. al.*

39. *Locusta danica*.

Gryllus (Locusta) danicus, Linnæus, Syst. Nat. (ed. xii), i (2), p. 702, n. 38 (1758).

Gryllus cinerascens, Fabr., Spec. Ins., i, p. 369, n. 57 (1781).

Hab. NYASALAND: Fort Johnston, Zomba (*Rendall*).

Two very dark specimens, one very large; and a third small pale specimen.

One of the commonest locusts in most parts of the Old World.

40. *Locusta pardalina*.

Pachytylus pardalinus, Walker, Cat. Derm. Salt., iv, p. 725, n. 7 (1870).

Pachytylus sulcicollis, Stål, Öfv. Vet. Akad. Förh., xxxiii (3), p. 50 (1876).

Pachytylus capensis, Saussure, Mém. Soc. Genève, xxviii (9), p. 119 (1884), xxx (1), p. 43 (1888).

Hab. TRANSVAAL: Pretoria (*Distant*).

One specimen is marked, "With swarm of red locusts, November 1894." It is probably this species which has been confounded with the Abyssinian *L. migratorioides*, Reiche, by some authors on South African locusts.

41. *Locusta migratoroides*.

Edipoda migratoroides, Reiche, Voy. Abyss., iii, p. 430, pl. 28, fig. 12 (1847).

Hab. NYASALAND: Fort Johnston (*Rendall*); ABYSSINIA; ANGOLA; SIERRA LEONE; LAS PALMAS (B. M.).

A widely-distributed species in Africa. The blue-black mandibles are very characteristic.

Genus HETEROPTERNIS.

Heteropternis, Stål, Rec. Orth., i, pp. 117, 148 (1873);
Saussure, Mém. Soc. Genève, xxviii (9), pp. 53, 129 (1884), xxx (1), pp. 19, 45 (1888).

42. *Heteropternis vittata*, sp. n.

Long. corp. 25 millim. ; exp. al. (circa) 48 millim.

Female. Black, face indistinctly mottled with paler, antennæ reddish above, brown below, palpi conspicuously pale yellow. Pronotum dull black, only one suture crossing the central carina a little before the middle ; just behind it is a broad pale band, probably red in life, occupying the front half of the space between its commencement and the apex of the pronotum ; it is narrowest at the central carina, and broadest above at the sides, where it drops straight down, extending on the overlapping sides to their hinder extremity ; in front of it are two small yellow spots on the black sides of the pronotum ; the obtuse hinder angle of the pronotum above is black. Abdomen testaceous, shining black above, and with broad black bands on the side of each segment, and with narrow black ones towards the base of the front segments beneath. Hind femora black, mottled with yellowish ; lower inner carina, hind tibiæ (except the base and spines, which are black) and the hind tarsi, except the black middle joint, red. Tegmina blackish, the cells paler, except towards the median line, two small yellow dots at $\frac{1}{3}$ of their length, and a transverse short whitish stripe at $\frac{2}{3}$. Wings smoky brown, subhyaline, with the basal half red.

Hab. BRITISH CENTRAL AFRICA: Zomba (*Rendall*).

Probably allied to *H. pudica*, Saussure.

Described from a single specimen. There is an immature specimen of what is probably an allied species, from Pretoria (*Distant*).

Genus PYCNODICTYA.

Pycnodictya, Stål, Rec. Orth., i, pp. 116, 121 (1873);
Saussure, Mém. Soc. Genève, xxviii (9), pp. 55, 144
(1884), xxx, p. 20 (1888).

43. *Pycnodictya obscura*.

Gryllus (Locusta) obscurus, Linnæus, Syst. Nat. (ed. x.), i,
p. 433, n. 52 (1858).

Pycnodictya obscura, Saussure, Mém. Soc. Genève, xxviii
(1), p. 145 (1884).

Edipoda rosacea, Serville, Ins. Orth., p. 728 (1839).

Hab. TRANSVAAL: Pretoria (*Distant*).

A considerable number of specimens, varying a little in
size and colour.

Genus TMETONOTA.

Tmetonota, Saussure, Mém. Soc. Genève, xxviii (9), pp. 56,
459 (1884), xxx (1), pp. 21, 54 (1888).

44. *Tmetonota abrupta*.

Edipoda abrupta, Walker, Cat. Derm. Salt., iv, p. 739, n. 76
(1870).

Trilophidia rugosa, Stål, Rec. Orth., i, p. 132 (1873).

Hab. TRANSVAAL: Pretoria, Rustenburg (*Distant*);
NATAL (*Krauss*); CAFFRARIA (*Stål*).

I am not certain whether Saussure has correctly
determined Stål's *T. rugosa*.

Genus ACROTYLUS.

Acrotylus, Fieber, Lotos, iii, p. 125 (1853); Stål, Rec. Orth.,
i, pp. 119, 135 (1873); Saussure, Mém. Soc. Genève,
xxviii (1), pp. 51, 58, 186 (1884), xxx, pp. 21, 23, 68 (1888).

45. *Acrotylus*, sp.

One or more species, not yet accurately determined.

EREMOBIIDÆ.

Genus BATRACHOTETTIX.

Batrachotettix, Burmeister, Handb. Ent., ii, p. 796 (1839);
Saussure, Mém. Soc. Genève, xxviii (9), pp. 63, 236
(1884), xxx, pp. 123, 142 (1888).

46. *Batrachotettix scutellaris*.

Trachypetra bufo, White (*nec* Burmeister), Methuen, Wanderings in Wilderness S. Africa, p. 317, pl. ii, fig. 3 (1846).

T. scutellaris, Walker, Cat. Derm. Salt., iv, p. 795, n. 3 (1870).

Batrachotettix whiti, Saussure, Mém. Soc. Genève, xxx (1), p. 148 (1888).

Hab. GRAHAMSTOWN (*Schonland*).

PYRGOMORPHIDÆ.

Chrotogoninæ.

Genus CHROTOGONUS.

Chrotogonus, Serville, Ins. Orth., p. 702 (1839); Bolivar, An. Soc. Esp., xiii, p. 37 (1884).

47. *Chrotogonus angustipennis*, sp. n.

Long. corp. cum tegm. 20–23 millim.

Uniform brown, strongly granulated, and very pubescent. Facial carinæ rather broad, subparallel, scarcely divergent below, rising on the vertex within the eyes, in front of two large tubercles, an oblique carinæ on the lower part of the cheeks. Prothorax with three raised carinæ on the median line, as in *C. capitatus*, but with only one slightly oblique carina running to the base of each tegmen. Pronotum produced behind in a rectangle. Tegmina very narrow, a little longer than the abdomen, with a large dark band about the middle. Antennæ testaceous, mostly black on the apical half; legs testaceous, banded with black; hind femora darker outside, with a large black spot in the middle above, and black spots on the carinæ below; inside of hind femora black, with a conspicuous yellowish band before the extremity. Abdomen spotted with black on the back above, towards the base, in the female; in the male there is also a double row of black spots beneath, and the terminal segment is likewise black beneath.

Hab. TRANSVAAL: Pretoria (*Distant*).

Described from one male and two females.

48. *Chrotogonus capitatus*, sp. n.

Long. corp. cum tegm. 20-24 millim.

Dark brown, head and thorax very rugose, and strongly granulated. Facial carinæ broad, undulating, diverging beneath, imperfect carinæ running down both before and behind the eye. Vertex with two arched carinæ between the eyes; antennæ testaceous, varied with black on the terminal half. Behind the carinæ on the vertex several smaller ridges run backwards, diverging. On the occiput stands a large black triangle, between which and the ridges (which are placed on an imperfect black band) is an oblique tawny band spotted with black. Prothorax (viewed from the side) trilobate; on each side of the first ridge stands a lower carina, and on each side of the central carina of the hinder lobe of the prothorax are three more carinæ, two short, terminal, and the third more central. Hinder lobe of the prothorax triangularly produced, and broadly truncate at the extremity. Tegmina brown, indistinctly spotted with darker brown, with very strongly-marked raised nervures and several rows of granules. Abdomen thickly punctured, under-surface tawny in front, yellow further back, and blackish towards the extremity, and marked with a double row of large black spots. Middle femora carinated, hind femora strongly granulated, tibiæ spotted with blackish.

Long. corp. 24 millim.

Hab. TRANSVAAL: Pretoria (*Distant*).

Three specimens—two males and one female; the female is much more uniformly coloured than the type, and wants the peculiar markings on the head. It has also two more distinct blackish bands across the tegmina.

49. *Chrotogonus meridionalis*.

Chrotogonus meridionalis, Saussure, Dist. Nat. Transv., p. 262, pl. iv, fig. 5 (1892).

Hab. TRANSVAAL: Zoutpansberg (*Distant*).

50. *Chrotogonus distantii*, sp. n.

Male. Clay-yellow, varied with black on the head, thorax, and basal segments of the abdomen; antennæ black, with the basal joints, and one or two isolated joints of the flagellum indistinctly reddish. Front moderately long, tricarinate, the lateral carinæ ending in tubercles within the eyes. Back of head grey in the middle,

followed by a black, and then by an orange spot on each side ; space behind the eyes black, lower parts of head whitish, with black dots and whitish tubercles ; a large pale tubercle on each side near the middle of the face. Thorax very rugose and tuberculate, front edge with two black tubercles in the middle, hinder edge rounded and lobate, the middle lobe and the lateral angles tipped with orange, between which are five black tubercles on each side. Tegmina rounded, tuberculate, not longer than the metathorax. Abdomen and hind femora slightly tinged with reddish, and with numerous small white tubercles. Legs above clay-yellow, indistinctly mottled with darker ; knees and tibiæ varied with blackish. Hind femora beneath and within yellowish, spotted with black on the carinæ. Under-surface of body mostly yellowish ; pectus irregularly spotted with black ; abdomen with a double row of large black spots, and a row of smaller dots above the lateral division.

Female. Similar, but larger and darker, the antennæ and tibiæ black, banded with grey ; in one specimen the lower part of the face is blackish. In some specimens the whole insect is much veined with whitish ; the face, the hinder lobe and part of the middle lobe of the prothorax, the pleura, and the greater part of the basal half of the hind femora being whitish with black spots. The tegmina are longer than in the male, extending to, or nearly to, the extremity of the smooth basal half of the first segment of the abdomen. The upper lateral spots on the abdomen much larger than in the male.

Long. corp. ♂ 12 millim. ; ♀ 19-21 millim.

Hab. TRANSVAAL: Waterberg, Warm Baths (*Distant*).

Described from one male and two female specimens of the dark form, and two female specimens of the pale form, which may possibly prove to be distinct when the genus is better known.

There appear to be several species of *Chrotogonus* allied to *C. hemipterus*, Schaum, the description and figure of which were probably taken from specimens bleached by spirit. I am not sure that it has yet been satisfactorily identified.

51. *Chrotogonus rendalli*, sp. n.

Long. corp. cum tegm. 19-20 millim.

Very similar to the last species, but rather narrower, and with the orange markings almost obsolete. Colour brownish-grey, mottled with blackish on the thorax. Front edge of prothorax with two black central tubercles ; hinder edge with two large ones on each side of the central line, and one or two smaller ones in addition. Face,

pleura, hinder lobe of prothorax, and base of hind femora paler grey than the rest of the insect; pleura with one or two distinct black spots. Tegmina oblong, extending distinctly beyond the pale smooth basal half of the first segment of the abdomen, rounded off on the outer end, but slightly pointed at the inner end, which is not the case in *C. distanti*.

Hab. NYASALAND: Fort Johnston (*Rendall*).

Described from three female specimens and one male.

52. *Chrotogonus carinatus*, sp. n.

Long. corp. 22-23 millim.

Female. Dark brown, thorax thickly studded with black tubercles, and with several large projecting angles on the sides. Front lobe of prothorax carinated in the middle; hinder lobe with two conspicuous black tubercles on each side of the median line at the extremity, beyond which is a well-marked carina. Tegmina narrow, almost sickle-shaped, the points meeting on the median line at the extremity of the first segment of the abdomen. Legs reddish, slightly mottled with black, tarsi and tips of tibiae black. Tubercles of the abdomen concolorous.

Hab. NYASALAND: Zomba, Fort Johnston (*Rendall*).

Described from two specimens.

53. *Chrotogonus rotundatas*, sp. n.

Long. corp. cum tegm. 20-23 millim.

Dark brown, mottled with blackish; head and thorax thickly rugose and granulated; antennae pale, banded with black in the male, nearly black in the female; frontal carinae narrow, subparallel; pronotum not raised in lobes, not much produced, and regularly rounded behind, where it is slightly carinated. On the hinder edge are two large black tubercles on each side, between the median carina and the black lateral carinae, and lower, the sides are bordered behind with smaller ones. Face, and sides of body whitish, under-surface yellowish, with the usual rows of black spots on the abdomen. Face with strong lateral carinae, and with a few large tubercles at the back of the cheeks, one on each side, in the male, being conspicuously yellow. Hind femora reddish-brown, more or less varied with whitish, and mottled with black; a double black line about the middle above, and the lower carinae spotted with black, the inside with a black longitudinal stripe. Tegmina with one

central row of granules, and extending for $\frac{1}{4}$ of their length beyond the abdomen.

Hab. NYASALAND: Fort Johnston (*Rendall*).

Described from two specimens, ♂ and ♀. Apparently allied to *C. fumosus*, Bolivar.

54. *Chrotogonus johnstoni*, sp. n.

Long. corp. cum tegm. 21-23 millim.

Resembles *C. capitatus*; reddish-brown, mottled with blackish; head and thorax strongly rugose and granulated, the three lobes of the pronotum, seen from the side, much higher, the second shorter than the others, an oblique lateral carina on the hinder lobe opposite the base of the tegmina; legs rather irregularly banded with paler and darker; hind femora with a blackish band about the middle above, preceded by a broader paler band; inner side black, extremity and lower carina yellowish, the latter spotted with black; hind femora black, with two yellow bands; hinder lobe of pronotum much produced, broadly rotund-truncate at the extremity; tegmina brown, not granulated, irregularly and rather indistinctly banded and spotted with darker; $\frac{1}{3}$ longer than the abdomen. Frontal carinæ broad, undulating, extending to within the eyes. Under-surface of the abdomen more thickly and irregularly spotted with black than in the allied species.

Hab. NYASALAND: Fort Johnston, Zomba (*Rendall*).

Described from one male and two female specimens.

ATRACTOMORPHINÆ.

Genus ATRACTOMORPHA.

Atractomorpha, Saussure, Ann. Soc. Ent. France (4), i, p. 474 (1861); Bolivar, An. Soc. Esp., xiii, p. 63 (1884).

Percna, Walker, Cat. Derm. Salt., iii, p. 506 (1870), v, Suppl., p. 50 (1871).

55. *Atractomorpha aurivillii*.

Atractomorpha aurivillii, Bolivar, An. Soc. Esp., xiii, p. 67, pl. i, fig. 8 (1884).

Hab. TRANSVAAL: Pretoria (*Distant*); NYASALAND: Fort Johnston (*Rendall*).

PYRGOMORPHINÆ.

Genus PYRGOMORPHA.

Pyrgomorpha, Serville, Ins. Orth., p. 583 (1839); Bolivar, An. Soc. Esp., xiii, p. 76 (1884).

56. *Pyrgomorpha granulata*.

Pyrgomorpha granulata, Stål, Bihang Vet. Akad. Handl., iii (14), p. 26 (1875); Öfv. Vet. Akad. Förh., xxxiii (3), p. 32 (1876); Bolivar, An. Soc. Esp., xiii, p. 426 (1884).

Hab. TRANSVAAL: Pretoria, Rustenburg (*Distant*); NYASALAND: Fort Johnston (*Rendall*).

Except in the position of the eyes, the shorter and less pointed tegmina, and the different colour of the wings, this species has much resemblance to *Atractomorpha aurivillii*, Bol.

Genus OCHROPHLEBIA.

Ochrophlebia, Stål, Rec. Orth., i, pp. 10, 14 (1873); Bolivar, An. Soc. Esp., xiii, p. 430 (1884).

57. *Ochrophlebia lignicola*.

Pacilocerus lignicolus, Serv., Ins. Orth., p. 602 (1839).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*), Zoutpansberg (*Kaessner*).

PHYMATINÆ.

Genus ZONOCERUS.

Zonocerus, Stål, Öfv. Vet. Akad. Förh., xxx, p. 51 (1873); Rec. Orth., i, pp. 10, 16 (1873); Bolivar, An. Soc. Esp., xiii, p. 457 (1884).

58. *Zonocerus elegans*.

Gryllus elegans, Thunberg, Mém. Pétersb., v, p. 226 (1815), ix, p. 407, pl. xiv, fig. 2 (1824).

Zonocerus elegans, Stål, Rec. Orth., i, p. 17 (1873); Öfv. Vet. Akad. Förh., xxxiii (3), p. 33 (1873); Bolivar, An. Soc. Esp., xiii, p. 459, pl. 3, fig. 19, 19a. (1884).

Pækilocerus roscipennis, Serville, Ann. Sci. Nat., xxii, p. 276, n. 3 (1831); Ins. Orth., p. 599 (1839).

Var. *Pækilocera atriceps*, Gerstaecker, Arch. f. Nat., xxxv, p. 216 (1869); Von der Decken's Reisen in Ost-Afrika, iii (2), p. 36 (1873).

Zonocerus atriceps, Bolivar, An. Soc. Esp., xiii, p. 458 (1884).

Hab. TRANSVAAL: Zoutpansberg (*Kaessner*); DELAGOA BAY (*Dawson*); East London, CAPE; ZULULAND; NATAL; KILIMANJARO; BRITISH EAST AFRICA (Brit. Mus.).

Z. atriceps, Gerst., is, I think correctly, referred to this species by Dr. Karsch. The characters given by various authors, to distinguish it from *Z. elegans*, Thunb., are not satisfactory; and it appears to be founded on yellow (or perhaps faded?) specimens of the micropterous form. The red micropterous form of *Z. elegans* is figured by Bolivar.

59. *Zonocerus sanguinolentus*.

Acrydium sanguinolentum, De Geer, Mém. Ins., iii, p. 489, n. 5, pl. 40, fig. 9 (1773).

Pækilocerus sanguinolentus, Serville, Ins. Orth., p. 598 (1839).

Zonocerus variegatus, Stål, Rec. Orth., i, p. 16 (1873); Bolivar, An. Soc. Esp., xiii, p. 450 (1884).

Hab. ANGOLA (*Monteiro*); NATAL; ZOMBA; SIERRA LEONE; CAMEROONS; NIGER; ASHANTI, etc. (B. M.).

I am not satisfied that this species is correctly identified with *Gryllus (Locusta) variegatus*, Linnæus, the type of which is lost.

Genus PHYMATEUS.

Phymateus, Thunberg, Mém. Pétersb., v, p. 257 (1815); Serv., Ins. Orth., p. 624 (1839); Stål, Rec. Orth., i, pp. 11, 17 (1873); Bolivar, An. Soc. Esp., xiii, p. 461 (1884).

60. *Phymateus leprosus*.

Gryllus leprosus, Fabricius, Ent. Syst., ii, p. 51, n. 18 (1793).

Phymateus leprosus, Stål, Rec. Orth., i, p. 18 (1873); Bolivar, Ann. Soc. Esp., xiii, p. 463, pl. 3, fig. 21 (1884).

Hab. TRANSVAAL: Barberton (*Rendall*); Beaufort West, CAPE COLONY (*Distant*); NATAL (B. M.).

61. *Phymateus papillosus*.

Dictyophorus papillosus, Thunberg, Mém. Acad. Pétersb., v, p. 258 (1815).

Gryllus (Locusta) morbillosus, Houttuyn, Nat. Hist., i (10), p. 218, n. 42, pl. 80, fig. 5 (1766).

Gryllus Locustæ morbillosi Nymphæ, Stoll, Saut., pl. 6 B, fig. 21 (1813).

Hab. TRANSVAAL: Pretoria (*Distant*).

This insect is apparently not the nymph of *P. morbillosus*, as every author since the time of Houttuyn seems to have inferred. I cannot refer it to any perfect insect before me; but it is probably most nearly allied to *P. leprosus*, Fabr., though smaller, and differently coloured. There are specimens of a similar pupa in the British Museum, also without any perfect insect to correspond to them.

61A. *Phymateus ægrotus*.

Pæcilocerus ægrotus, Gerst., Arch. f. Nat., xxxv, p. 216 (1869); Von der Decken, Reisen, iii (2), p. 35 (1873).

Phymateus ægrotus, Bolivar, An. Soc. Esp., xiii, p. 465 (1884).

Phymateus squarrosus, Distant, Nat. Transv., p. 259 (1892); (*nee* Linn.).

Hab. PRETORIA (*Distant*); ANGOLA (*Monteiro*); BRIT. CENTRAL AFRICA: Zomba (*Rendall*); CAFFRARIA (*Wahlberg*); ABYSSINIA (*Raffray*); SOMALI (*Gerstæcker*); TANGANYIKA; KILIMANJARO; FWAMBO; NYASALAND; NATAL; ZULULAND (B. M.).

A common species. The spines bordering the pronotum may be either red or green. Stoll has figured an allied species (*P. stollii*, Sauss.) as *squarrosus*, Linnæus, but the latter is a West African insect belonging to the allied genus *Rhytidoderes*, Westwood (*Peristegas*, Bolivar).

62. *Phymateus morbillosus*.

Gryllus (Locusta) morbillosus, Linnæus, Syst. Nat. (ed. x.), p. 431, n. 1 (1758); Mus. Ludov. Ulr., p. 141 (1764).

Phymateus morbillosus, Stål, Rec. Orth., i, p. 18 (1875);
Bolivar, An. Soc. Esp., xiii, p. 467 (1875).

Hab. NAMAQUALAND.

A well-known South African species.

DICTYOPHORINÆ.

Genus TAPHRONOTA.

Taphronota, Stål, Öfv. Vet. Akad. Förh., xxix, p. 51 (1873);
Rec. Orth., i, pp. 11, 15 (1873); Bolivar, An. Soc.
Esp., xiii, p. 473 (1884).

63. *Taphronota calliparcus*.

Peciloccerus calliparcus, Schaum, Monatsb. Berl. Acad.,
1853, p. 778; Peters' Reise Mossamb. Zool., v, p. 130,
pl. vii A, fig. 2 (1862).

Taphronota calliparea, Bolivar, An. Soc. Esp., xiii, p. 475
(1884).

Peciloccerus porosus, Stål, Öfvers. Vet. Akad. Förh., xiii, p.
352 (1855).

Taphronota porosa, Stål, Rec. Orth., i, p. 19 (1873).

Hab. TRANSVAAL: Barberton (*Distant*); NYASALAND:
Fort Johnston (*Rendall*); PEMBA ISLAND (*Burtl*); CAF-
FRARIA (*Stål*); MOZAMBIQUE (*Peters*); NATAL; ZULULAND:
TANGANYIKA; ZOMBA; CAMEROONS (B. M.).

64. *Taphronota stâli*.

Taphronota stâli, Bolivar, An. Soc. Esp., xiii, p. 473
(1884).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Ren-
dall*); NATAL (B. M.).

Bolivar describes this insect as green; but in all the
specimens before me the pronotum is black, though the
head is often more or less green.

Genus MAURA.

Stål, Öfv. Vet. Akad. Förh., xxx, p. 51 (1873); Rec. Orth.,
i, pp. 12, 19 (1873); Bolivar, An. Soc. Esp., xiii, p.
478 (1884).

65. *Maura rubroornata*.

Petasia rubroornata, Stål, Cefv. Vet. Akad. Förh. (1855), p. 352; Rec. Orth., i, p. 19 (1873).

Maura rubroornata, Bolivar, An. Soc. Esp., xiii, p. 480 (1884).

Pctasia pyrromela, Walker, Cat. Derm. Salt. B. M., iii, p. 545, n. 4 (1870).

Hab. TRANSVAAL: Pretoria (*Distant*), Zoutpansberg (*Kaessner*); CAFFRARIA (*Stål*); ZULULAND; CAPE (B. M.).

66. *Maura atriceps*, sp. n.

Long. corp. 34 millim.; exp. al. 60 millim.

Blue-black; antennæ with two red bands, occupying joints 7 and 8, and 11, 12, and the base of 13. Head quite black, except that the ocelli are very slightly marked with pale yellow. There is a buff mark above the four hinder coxæ, and a buff mark below the front coxæ. A broad transverse band on the metapectus, lateral bands on the first six segments of the abdomen (connected dorsally by yellow lines at the ends of the segments), narrower terminal lines on the six corresponding ventral segments, the cerci, and a spot on each side towards the extremity of the hind femora, red; tegmina dark brown, wings more grey.

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*).

The specimen from Barberton differs in having a red spot beneath the wings, as in *M. rubroornata*, and in having a red spot on the outside only of the hind femora, near the base.

67. *Maura flavomaculata*, sp. n.

Perhaps a variety of *M. atriceps*, with which it mainly agrees in size, colour, and markings, except that all the pale markings are pale yellow, instead of red, only those on the under-surface of the abdomen being slightly tinged with reddish. Antennæ with two bands; lower part of clypeus with a broad yellow transverse band on each side. Pectus and abdomen similarly marked, but there is a round yellow spot on the pleura (only present in red in the Barberton variety of *M. atriceps*), and the pale bands on the under-surface of the abdomen are much broader than in *M. atriceps*. Hind femora with a round spot near the

base, and a smaller and more irregular one near the extremity, towards the upper carina, but on the outer side only. Tegmina and wings as in *M. atriceps*; a large pale spot above the hind coxæ.

Hab. TRANSVAAL: Sterkfontein (*Thomasset*).
In the collection of the British Museum.

68. *Maura bolivari*, sp. n.

Long. corp. 30 millim.

Female. Dark reddish-brown, mottled with black; head and thorax rugose above, scutellum of vertex thickly punctured; antennæ black, the penultimate joint and sometimes the one preceding it red; face and lower part of head shining black, except a broad luteous band, covering the greater part of the clypeus, except near the eyes, and the middle of the base of the labrum; tegmina abbreviated, reaching nearly to the end of the third segment of the abdomen; a large rufous spot below their base, on the metapleura; pronotum rounded behind; hind femora black inside and below, mottled with reddish and black on the outside, and the inner carina above yellowish, interrupted with black. Abdomen more or less mottled with red and black above; beneath black banded with red.

Hab. NYASALAND: Fort Johnston (*Rendall*); Zomba (B. M.).

Named after the eminent Spanish Orthopterist, Señor I. Bolivar.

Genus EPAMONTOR, g. n.

Male. Scutellum of the vertex as long as the large oval eyes; seen from above, ovally rounded in front, but surmounted by two lateral carinæ running within the eyes, nearly meeting in front in an acute angle; head, thorax, and abdomen, with a well-marked median carina, ceasing a little in front of the eyes, where it is followed by a sulcation extending to the front; antennæ placed near the eyes, below the lateral ocelli; antennæ fusiform, about 17-jointed, the joints of the flagellum mostly short, transverse, cheese-shaped; all parts of the body marked with yellow granules, in more or less regular longitudinal rows; pronotum truncated and slightly raised behind; cerci stout, conical, a little shorter than the terminal joint of the abdomen; legs long and slender; hind femora unarmed, slightly and gradually attenuated towards the extremity, and nearly as long as the abdomen; hind tibiæ about as long as the hind femora, with

a double row of moderate-sized spines above. Abdomen with a carina regularly arched on each segment.

This insect appears to be allied to the genus *Maura*. It is perhaps a larval form, but does not agree sufficiently with any specimen before me to be placed in the same genus.

69. *Epamontor antennalis*, sp. n.

Long. corp. 16 millim.

Male. Rufo-testaceous, darkest on the head and thorax, set with yellow tubercles, of which the largest are a pair on the back, and an oblong one on each side, at the base of the pronotum; while on the abdomen the spots forming the lowest row on the sides are the largest. Antennæ black, the whole of joint 13, and the under-surface of the following ones to the tip, rufous. Head black, dotted with yellow; scutellum of the vertex, below the lateral carinæ, palpi, pectus, under-surface of the abdomen, and cerci, rufous. Legs more or less varied with reddish or yellowish, and black, and dotted with yellow; lower carinæ of the hind femora yellow, interrupted with black.

Hab. TRANSVAAL: Pretoria (*Distant*).

Described from two specimens.

Genus DICTYOPHORUS.

Dictyophorus, Thunberg, Mém. Pétersb., v, p. 258 (1815).

|| *Pctasia*, Serville (*nec* Stephens), Ann. Sci. Nat., xxii, p. 278 (1831); Ins. Orth., p. 628 (1839); Stål, Rec. Orth., i, pp. 12, 20 (1873); Bolivar, An. Sci. Esp., xiii, p. 481 (1884).

Thunberg included three species under this name: *D. spumans*, *papillosus*, and *reticulatus*. *D. reticulatus* is congeneric, if not identical, with *Aceridium micropterum*, Beauvois, the type of *Romalca*, Serville (*Rhomalca*, Burmeister); and *D. papillosus* is apparently an immature insect belonging to the genus *Phymateus*, Thunberg. This leaves the first species (and therefore *ipso facto* the type, in the view of some entomologists; though when I raised the question years ago at the Entomological Society, the suggestion was rejected), *D. spumans*, as the type of *Dictyophorus*; more especially as it is the type of Serville's later and preoccupied genus *Pctasia*, which could not be retained in any case.

70. *Dictyophorus ater*.

Petasia spumans, var. *ater*, Dist., Naturalist in Transvaal, p. 259, pl. iv, fig. 3 (1892).

Hab. TRANSVAAL: Pretoria (*Distant*).

A well-marked form, and perhaps a good species. The true *D. spumans*, Thunb. (= *cruentata*, Serv.), does not appear to occur in the Transvaal.

71. *Dictyophorus olivaceus*.

Petasia olivacea, Serville, Ann. Sci. Nat., xxii, p. 279, n. 2 (1831).

Petasia cruentata, var., Serville, Ins. Orth., p. 630 (1839).

Hab. TRANSVAAL: Barberton (2 specimens: *Rendall*), Pienaar's River (1 specimen: *Thomson*).

There appear to be several species confounded under the name of *P. spumans*, Thunb. If, as I presume, the latter is the red insect figured by Roesel and Stoll, and described by Serville as *P. cruentata*, there are no specimens in Mr. Distant's collection. The three specimens referred to *P. olivacea* agree fairly well with Serville's description, quoted above, which, however, is very incomplete.

PAMPHAGODINÆ.

Genus CHARILAUS.

Charilaus, Stål, Bihang Vet. Akad. Handl., iii (14), p. 26 (1875); Öfv. Vet. Akad. Förh. xxxiii (3), p. 35 (1876); Bolivar, An. Soc. Esp., xiii, p. 487 (1884).

72. *Charilaus carinatus*.

Charilaus carinatus, Stål, Bihang Vet. Akad. Handl., iii (14), p. 26 (1875); Öfv. Vet. Akad. Förh., xxxiii (3), p. 35 (1876); Bolivar, An. Soc. Esp., xiii, p. 488, pl. iv, figs. 30, 30a (1884).

Hab. TRANSVAAL: Waterberg, Warm Baths (*Distant*); DAMARALAND (*Stål*).

A single specimen of this rare and curious species.

PAMPHAGIDÆ.

Genus ADEPHAGUS.

Adephagus, Saussure, Spic. Ent., ii, p. 23 (1887).

73. *Adephagus cristatus*.

Pamphagus cristatus, Burmeister, Handb. Ent., ii, p. 618, n. 10 (1838).

Adephagus cristatus, Saussure, Spic. Ent., ii, p. 23, n. 1, pl. 3, fig. 22 (1887).

Hab. TRANSVAAL (*Saussure*).

Genus XIPHICERA.

Xiphicera, Lamarck, Anim. sans Vertèbres, iv, p. 243 (1817).

Xyphicera, Latreille, Cuvier, Règne Anim., v, p. 186 (1829).

Xiphocera, Stål (*nce* Burmeister), Öfv. Vet. Akad. Förh., xxxiii (3), p. 37 (1876); Saussure, Spic. Ent., ii, pp. 19, 27, 30, 35 (1887).

So much confusion exists in the use of the names *Xiphicera* and *Xiphocera* that I think it well to discuss the whole subject in detail, especially as the particulars given in my paper on "The Genera of Orthoptera," published in the *Journal of the Royal Dublin Society* for 1890, are incomplete.

1815. *Pamphagus*, Thunberg, Mém. Pétersb., v, p. 260.

Several species are included under this name, including *Gryllus elephas* and *scirripes*, Fabr., and *virens*, Thunb.

1839. Burm., Handb. Ent., ii, p. 615, includes *inter alia*, *G. scirripes*, F., *virens*, T., and *elephas*, Linn.

1873. Stal, Rec. Orth., i, pp. 21, 25.

Stal designates *G. elephas*, Linn. (*nce* Fabr.), as the type, which may be accepted; as *G. virens*, Thunb. (accidentally omitted from the list in my Dublin paper, of which I did not see a revise), is considered to be the same species.

1817. *Xiphicera*, Lamarck, Anim. sans Vert., iv, p. 243.

Types, *Gryllus gallinaceus* and *scirripes*, Fabr. (the latter = *carinatus*, Linn.).

1829. *Xyphicera*, Latreille, Cuvier, Règne Anim. (ed. 2), v, p. 186.

Types, *Gryllus carinatus*, Linn., and *G. gallinaceus*, Fabr.

1831. *Xyphicera*, Serville, Ann. Sci. Nat., xxii, p. 271.

Types, *X. emarginata* and *trilincata*, Serv.

These species belong to the family *Cyrtacanthacridæ*, and to the American subfamily *Tropinotinæ*, and have nothing to do with the types of Lamarck and Latreille.

1839. *Xiphocera*, Burmeister, Handb. Ent., ii, p. 612.

Used by Burmeister in Serville's sense, for various American species of the allied subfamily *Tetratæniinæ*. The name cannot, however, be retained in the form *Xiphocera*, for *Xiphocera* was used by Macquart in 1834 for a genus of Diptera, and has also been used by later Dipterists under the various forms of *Xiphocera*, *Xiphocerus*, *Xyphidicera*, *Xyphocera*, and *Xyphocerus*.

1876. *Xiphocera*, Stål (*nec* Burmeister), Öfv. Vet. Akad. Förh., xxxiii (3), p. 37 (1876); Saussure, Spic. Ent., ii, pp. 19, 27, 30, 35 (1887).

The types given by Lamarck for *Xyphicera* are *G. gallinaceus* and *scriripes*, Fabr., for the latter of which Latreille substitutes *carinatus*, L. The genus is distinguished by its Truxaliform antennæ, which at once throws out *G. gallinaceus*, which is one of the *Mastacidæ*. Nor is the character well marked in *G. carinatus*, of which *G. scriripes* is usually considered a synonym; but it is pronounced in *G. cucullatus*, Stoll, which is described by Serville under the name of *carinatus*; and we are therefore justified in regarding *cucullatus* as the insect which Lamarck and Latreille regarded as *G. scriripes* or *carinatus*, and therefore as the true type of the genus *Xyphicera*.

1831. *Porthetis*, Serville, Ann. Sci. Nat., xxii, p. 270.

Type *Acrydium dentatum*, De Geer (= *Gryllus carinatus*, Linn.).

If we assume that Lamarck and Latreille had correctly identified *G. carinatus* and *G. scriripes*, *Porthetis* would become a synonym of *Xyphicera*, and a new name would be required for *G. canescens* and its allies; but as the identification is doubtful, both generic names may be retained, at least provisionally.

The genus *Xiphicera* itself will require further subdivision; but our knowledge of the sexes, variation, etc., is too limited to render it advisable to attempt it at present. In the case of species with extended synonymy, only the most important references are quoted; but these will always include a reference to some author who gives the full synonymy.

74. *Xiphicera cucullata*.

Gryllus cucullatus, Stoll, Sauterelles, pl. 22b, figs. 96, 97 (1815).

Pamphagus cucullatus, Burmeister, Handb. Ent., ii, p. 616, n. 1 (1839).

Pamphagus canescens, Thunberg, Hemipt. Max. Cap., p. 5 (1822).

Porthetis canescens, Stal, Rec. Orth., i, p. 24 (1873);
Saussure, Spic. Ent., ii, p. 37, pl. ii, figs. 2-4 (1887).

Akicera curinata, Serville (*nec* Linnæus), Ins. Orth., p. 605 (1839).

Hab. TRANSVAAL: Pretoria (immature), Masil. Nek (*Distant*), Waterberg (*Wildes*), Teafontein (*Miss Leppa*, Oct., 1894), Barberton (*Rendall*).

Previously recorded from the Transvaal by Saussure.

75. *Xiphicera ensicornis*.

Xiphocera ensicornis, Saussure, Ent. M. Mag., xxix, p. 152 (1893).

Hab. TRANSVAAL: Zoutpansberg (*Distant*); Lydenburg (*Zurtz*).

One of the two specimens of *Akicera punctosa*, Walker, in the Brit. Mus., apparently belongs to this species. The type of *punctosa*, however, is a slightly larger insect, with the vertex of the scutellum longer in proportion, and with larger medial spines on the abdomen. But I am not quite satisfied that the specimens are not varieties of one and the same species.

76. *Xiphicera nasuta*.

Xiphocera nasuta, Saussure, Spicil. Ent., ii, p. 47, pl. ii, fig. 6 (1887).

Hab. TRANSVAAL: Barberton (*Rendall*); Murchison Range (B. M.); ZULULAND (*Saussure*).

The male (not described by *Saussure*) is 38 millim. in length, or 46 to the extremity of the closed wood-brown tegmina. The front is rather prominent, and the scutellum of the vertex forms a long oval, with converging lateral carinæ, and a slight median carina behind. The head and prothorax are longitudinally striped with black and testaceous, and there is a very characteristic testaceous stripe, meeting in front, and running backwards below the eye to a point, before reaching the hinder edge of the prothorax. The antennæ are black, with the two basal joints, and more or less of the five terminal joints, testaceous. The female from Barberton is much greyer, with the abdomen brown. In the female from Murchison Range, the flattened portion of the antennæ and the lower part of the face are reddish, instead of black.

77. *Xiphicera eblis*, sp. n.

Long. corp. 55 millim.

Female. Very dark chestnut, approaching black on some parts of the head; head and thorax moderately thickly speckled with white, the rest of the body more sparingly; vertex considerably produced above the lower part of the face; scutellum of the vertex forming a long oval, with lateral carinæ behind, curving inwards; head and thorax with longitudinal ill-defined blackish marks; face thickly dusted with white, forming an ill-defined pointed stripe backwards under the eye, as described in the male of *X. nasuta*. Antennæ 14-jointed, black, except the two basal, and the terminal joints; joints 3-7 very broad and flattened, joints 8 and 9 scarcely narrower, the last five much narrower, the last longest, and conical. Thorax moderately arched, the hinder part with rounded crenulations, the extremity somewhat obtuse. Abdomen with the usual teeth on the median carina, short and obtuse on the second and third segment, scarcely marked on the others. Hind femora moderately long and broad, slightly dentated above, but merely tuberculate and sinuated below. Hind tibiæ with ten spines on the outer carina, the space between the carinæ filled up with whitish hair.

Hab. TRANSVAAL: Pretoria (*Distant*).

Closely allied to *X. punctosa*, Walk., etc., but differs from any other species in the shape of the antennæ.

78. *Xiphicera angolensis* (?).

Xiphocera angolensis, Saussure, Spic. Ent., ii, p. 47, pl. i, fig. 8 (1887).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*).

A series of immature specimens, apparently more resembling this species than any other.

79. *Xiphicera cinerascens*.

Pamphagus cinerascens, Stål, Rec. Orth., i, p. 23 (1873).

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*).

Many specimens from Pretoria of this large and handsome species, representing both sexes, and also larval forms. One male exhibits a peculiar malformation of the right antenna, which is only half the length of the other, and consists of about eight malformed joints.

80. *Xiphicera rugosipes*, sp. n.

Long. corp. 60-65 millim.

Female. Very rugose and nodulose. Antennæ 16-jointed, scape thick, twice as long as broad, distinctly granulated; second joint annular, joints 3-8 moderately broad and flattened, ribbon-like, joints 4 and 5 the shortest, the last six joints much narrower, and distinctly separated; joint 11 the shortest, nearly square, joint 13 half as long again; the others longer. Vertex seen from the side nearly on a level with the lower part of the face; scutellum of the vertex slightly depressed and rectangular in front, the extremities of the angle projecting somewhat beyond the lateral carinæ, in front of the eye; the lateral carinæ curving round in front of the occiput. Colour rufo-testaceous, varied with paler and darker, indistinctly striated with blackish, and covered with whitish granules. Crest of the pronotum moderately arched, the hinder part strongly granulated, both on the median line and on the outside; terminal carinæ yellowish. All the pleuræ strongly serrated above each pair of legs. Abdomen with a strong tooth on each segment on the median line, and with a row of tubercles on each side. The whole thorax and abdomen are very rugose, and strongly granulated. Hind femora shaped as in *X. latipes*, strongly granulated and tuberculated, the central area reticulated with black. Upper carina strongly serrated, the hinder part somewhat raised beyond the

deepest notch. Lower carina with a double row of crowded and irregular teeth and tubercles, and with a very large tubercle about the middle. Internal area of the hind femora nearly smooth. Hind tibiæ with nine spines in the outer carina.

Hab. TRANSVAAL: Pretoria (*Distant*), Barberton (*Rendall*); DELAGOA BAY (*H. A. Spence*).

Described from three female specimens. This species is something like *X. cinerascens*; but I can find no species described which resembles it in its rugosity, and in the peculiar structure of the hind femora.

81. *Xiphicera paupercula*, sp. n.

Long. corp. 43 millim.

Female. Dark reddish-brown; legs paler; head, thorax and hind legs thickly granulated with white; vertex only slightly projecting beyond the lower part of the face; scutellum of the vertex rounded off in front, nearly horizontal, coarsely and finely granulated, the lateral carinæ converging behind. Antennæ short and broad, 14-jointed, rather flattened, joints 3-8 flattened, closely connected, pairs 9 and 10 and 11 and 12 successively narrower, but 9 and 11 shorter than 10 and 12, and 13 narrower but a little longer than 12; terminal joint twice as long as broad; conical. Thorax compressed, crest regularly arched, with three deep concavities beneath it; hinder part of crest denticulated, with the extremity bifid. Abdomen very rugose, median teeth large, and a row of rather large callosities on each side as well. Hind femora very broad, extremity truncated, preceded by a large concavity beneath. Hind femora strongly dentated above, and irregularly denticulated below, and with nine spines on the outer carina.

Hab. TRANSVAAL: Pretoria (*Distant*).

This insect seems to combine the characters of *X. distanti* and *X. rugosipes*, but the scutellum of the vertex is more rounded in front, and the antennæ differ much. It is, however, not quite impossible that it may be an immature form of *X. rugosipes*.

82. *Xiphicera distanti*.

Xiphocera distanti, Saussure; *Dist., Nat. Transv.*, p. 261, pl. iv, fig. 1 (1892).

Hab. TRANSVAAL : Pretoria (*Distant*).

Several specimens. The male has rather pointed rudimentary wings extending just beyond the third segment of the abdomen.

83. *Xiphicera picta*.

Xiphocera picta, Saussure ; *Dist., Nat. Transv.*, p. 261, pl. iv, fig. 2 (1892).

Hab. TRANSVAAL : Pretoria, Waterberg and Rustenburg (*Distant*).

This species seems to vary considerably, but I have not felt justified in describing any of the forms before me as new. The male has rudimentary wings.

84. *Xiphicera compressa*, sp. n.

Long. corp. 45 millim. ; capitis et pronoti 24 millim.

Male. Antennæ short, 14-jointed ; ensiculus 6-jointed, moderately broad, intermediate joints transverse, the first only half as long as the second ; flagellum 4-jointed, the two first joints flattened, narrower than the intermediate joints, and slightly broader than long ; the two last cylindrical. Vertex not produced beyond the lower part of the face ; scutellum of vertex rather longer than broad, subrectangular in front, but obtusely rounded off ; lateral carinæ converging behind. Head and pronotum grey, head below, and pronotum above and below darker. Pronotum very long, considerably compressed, but not pitted above ; slightly sinuated beyond the middle, but not dentated ; extremity shortly bifid. The whole insect, except the basal and apical joints of the antennæ, the sides, under-surface, and neighbourhood of the sutures of the abdomen—which are brown—and the spines and tarsi of the legs, is more or less thickly covered with white granules ; on the sides of the hinder part of the prothorax are some larger concolorous tubercles. Wings extending to the middle of the third segment of the abdomen, rufo-testaceous, with black dots along the longitudinal nervures. Hind femora about three times as long as broad, carinæ subparallel, the lower one slightly concave before the knee, denticulated above, and more slightly below ; hind tibiæ with nine spines on the outer carina.

Hab. TRANSVAAL : Pretoria (*Distant*).

Described from two specimens, one considerably darker than the other. The lighter specimen, has been selected as the type. Somewhat resembles *X. brevis*, Walk., in shape,

but much less rugose, and the shape of the antennæ is quite different. Probably allied to *X. obsoleta*, but can hardly be the male of that species.

85. *Xiphicera granulosa*, sp. n.

Female. Antennæ 15-jointed, basal joints red, joints 3-8 black, forming an ensiculus, slightly flattened, but scarcely broader than the rest; joints 9-11 also black, more distinctly separated; joint 9 shorter than the two following ones; joints 12-15 reddish, the last cylindrical, and nearly as long as the two preceding ones together; body brown, thickly granulated with white, and with larger granules scattered on the sides of the thorax and abdomen; space behind and below the eyes a little greenish; vertex hardly projecting beyond the lower part of the face; scutellum of the vertex nearly as broad as long, forming a rectangle in front, not rounded off, and the lateral carinæ semicircular behind; pronotum sharply pointed in front, crest nearly straight, yellowish, not carinated, but strongly bifid at the extremity; spines of the abdomen large; hind femora narrowed above and below before the knee, strongly denticated above, and denticulated below; crest of pronotum with three semivitreous cavities below.

Hab. TRANSVAAL: Pretoria (*Distant*).

Allied to *X. compressa*, and possibly the female of that species.

86. *Xiphicera brevis*.

Pamphagus brevis, Walker, Cat. Derm. Salt., iii, p. 534, n. 3 (1870).

Hab. TRANSVAAL: Pretoria (*Distant*); NATAL (*type*) (*Gucinzius*).

87. *Xiphicera obsoleta*, sp. n.

Long. corp. 50 millim.

Female. Dark brown, nearly black, granulated. Antennæ 14-jointed, joints 3-8 moderately broad, and so closely connected that they can hardly be counted; joints 9 and 10 flattened, but narrower, and joint 9 shorter than 10; the rest cylindrical, 11 and 12 shorter than 13 and 14. Prothorax with the median and all the bordering carinæ slightly reddish; the upper two-thirds of the front more reddish, with traces of three blackish longitudinal lines in front, below the crest. Crest moderately arched, and somewhat sloping

behind, where it is denticulated. Abdomen with strong spines on the median line on the first seven segments. Hind femora very broad and truncated at the extremity, the carinæ paler; upper carinæ moderately dentated, lower carinæ denticulated. Hind tibiæ with nine spines on the outer carina.

Hab. TRANSVAAL: Pretoria (*Distant*).

Differs from *X. femoralis*, Walk., and *X. lutipes*, Sauss., in colour, the well-marked abdominal spines, the armature of the hind femora, etc.

88. *Xiphicera rendalli*, sp. n.

Long. corp. 45 millin.

Female. Dark reddish-brown, darker in the back, longitudinally marked on the sides with wavy, but rather indistinct blackish lines. Antennæ very long, 16-jointed; two basal joints red, the rest black; ensiculus moderately broad, flattened, 7-jointed; intermediate joints, first pair of joints of flagellum and second pair successively narrowed, but scarcely decreasing in length; terminal joint cylindrical, longer than any preceding. Vertex hardly projecting beyond the lower border of the face; pronotum somewhat rugose, crest regularly and moderately arched, slightly crenulated towards the extremity, which is simple. Hind femora contracted above and below before the knee, strongly dentated above, and denticulated beneath.

Hab. TRANSVAAL: Barberton (*Rendall*).

Resembles Saussure's figure of *X. mannulus*, but the structure of the antennæ is quite different.

89. *Xiphicera bradyana*.

Xiphocera bradyana, Saussure, Spic. Ent., ii, p. 55, n. 17, pl. ii, fig. 1 (1887).

Hab. TRANSVAAL (*Saussure*); SOUTH AFRICA (B. M.).
Not in Mr. Distant's collection.

Genus PORTHETIS.

Porthetis, Serville, Ann. Sci. Nat., xxii, p. 270 (1831);
Stål, Rec. Orth., i, pp. 21, 23 (1873); Gefv. Vet. Akad.
Förh., xxxiii (3), p. 37 (1876); Saussure, Spic. Ent.,
ii, pp. 33, 60 (1887).

90. *Porthetis carinata*.

Gryllus (Bulla) carinatus, Linnaeus, Syst. Nat. (ed. x), i, p. 427, n. 16 (1758); Mus. Ludov. Ulr., p. 122 (1764).
Porthetis carinata, Stål, Rec. Orth., i, p. 23, n. 2 (1873).
Xiphocera carinata, Saussure, Spic. Ent., ii, p. 60, pl. iii, fig. 13 (1887).

Hab. TRANSVAAL (*Saussure*); CAPE COLONY.

Not in Mr. Distant's collection.

I refer to Stål and Saussure for the complicated synonymy of this species.

91. *Porthetis consobrina*.

Xiphocera consobrina, Saussure, Spic. Ent., ii, p. 62, n. 23 (1887).

Hab. TRANSVAAL (*Saussure*).

Not in Mr. Distant's collection.

Genus HOPILOLOPHA.

Hoplolopha, Stål, Öfv. Vet. Akad. Förh., xxxiii (3), p. 36 (1876); Saussure, Spic. Ent., ii, p. 63 (1887).

92. *Hoplolopha lineata*.

Pamphagus lineatus, Stål, Rec. Orth., i, p. 24, n. 5 (1873).
Xiphocera lineata, Saussure, Spic. Ent., ii, p. 65, n. 24, pl. iii, fig. 16, 17 (1887).
Akicera grisea, ♂ (nec. ♀), Serville, Ins. Orth., p. 606 (1839).

Hab. TRANSVAAL: Pretoria (?) (*Distant*).

93. *Hoplolopha reflexa*.

Pamphagus reflexus, Walker, Cat. Derm. Salt., iii, p. 535, n. 5 (1870).
Xiphocera camelina, Saussure, Spic. Ent., ii, p. 67, n. 26, pl. iii, fig. 18, 19 (1887).

Hab. CAPE; TRANSVAAL (*Saussure*).

94. *Hoplolopha horrida*.

Pamphagus horridus, Burmeister, Handb. Ent., ii, p. 617 (1838).

Hab. CAPE COLONY: Grahamstown (*Schonland*, Feb. 25); Brak Kloof (*Mrs. G. White*, March 1895).

Several specimens, approximately agreeing with the insufficient description of this species. Antennæ 16-jointed, joints 3—11 flattened, broader than long, 12 and 13 narrower, almost square; terminal joint broadly fusiform, about twice as long as broad.

CYRTACANTHACRIDÆ.

EUTHYMIINÆ.

Genus LENTULA.

Lentula, Stål, Bihang Vet. Akad. Handl., v (4), pp. 45, 90 (1878).

95. *Lentula obtusifrons*.

Lentula obtusifrons, Stål, Bihang Vet. Akad. Handl., v (4), p. 90 (1878).

Hab. BARBERTON (*Rendall*); NATAL: ZULULAND (B. M.).
One immature specimen from Barberton of this interesting and little-known species.

OXYINÆ.

Genus OXYA.

Oxya, Serville, Ann. Sci. Nat., xxii, p. 282 (1831); Ins. Orth., p. 675 (1839); Stål, Rec. Orth., i, pp. 41, 81 (1873).

96. *Oxya viridivitta*.

♂ *Heteracris viridivitta*, Walker, Cat. Derm. Salt., iv, p. 660, n. 10 (1870) (South Africa).

♀ *Heteracris humeralis*, Walker, l. c., p. 662, n. 16 (1870) (Madagascar).

Hab. TRANSVAAL: Pretoria, one ♀ (*Distant*); SOUTH AFRICA (*Sir A. Smith*); MADAGASCAR (*Ida Pfeiffer*); LAGOS (*Strachan*).

I refer the few specimens I have seen to the same species with some hesitation; but the material before me is too small for absolute certainty. In the two females the costal area is dilated near the base as much as in the Australian genus *Bermius*, Stål.

GONYACATHINÆ.

Genus GONYACANTHA.

Gonyacantha, Stål, Rec. Orth., i, p. 43, note (1873).

97. *Gonyacantha ensator*.

Mesops ensator, Walker, Cat. Derm. Salt., iii, p. 501, n. 5 (1870).

Hab. MOZAMBIQUE: Mopea (Coll. *Distant*); NATAL (*Gueinzius*).

MESOPINÆ.

Genus MESOPS.

Mesops, Serville, Ann. Sci. Nat., xxii, p. 267 (1831); Ins. Orth., p. 585 (1839); Stål, Rec. Orth., i, p. 44 (1873).

98. *Mesops laticornis*.

Mesops laticornis, Krause, Sitz. Akad. Wiss. Wien, 76 (1), p. 49, pl. ii, fig. 13 (1877).

Hab. TRANSVAAL: Waterberg, Warm Baths (*Distant*); SENEGAL: SIERRA LEONE (*Krause*); NATAL; BRITISH EAST AFRICA: Samburu (collected by *C. S. Betton*, Nov. 1896), Zomba (B. M.).

MESAMBRIINÆ.

Genus ANTHERMUS.

Anthermus, Stål, Bihang Vet. Akad. Handl., v (4), pp. 24, 68 (1878).

99. *Anthermus granosus*.

Anthermus granosus, Stål, Bihang Sv. Handl., v (4), p. 68 (1878).

Hab. TRANSVAAL: Pretoria (*Distant*); NATAL (Brunner's collection).

Four specimens were obtained by Mr. *Distant*.

CYRTACANTHACRINÆ.

Genus CYRTACANTHACRIS.

Cyrtacanthacris, Walker, Cat. Derm. Salt., B. M., iii, p. 550 (1870).

Acridium vel *Acrydium*, Serville, Ann. Sci. Nat., xvii, p. 282 (1831); Ins. Orth., p. 141 (1839); et auct. seq.; nec *Acrydium*, Geoffroy.

I retain this name provisionally for an extensive group of large migratory locusts, much in need of sub-division, which are generally designated by the inapplicable name *Acridium*. Walker makes two genera, *Cyrtacanthacris* and *Acridium*; but all the African species included in the present paper are enumerated by him under *Cyrtacanthacris*.

100. *Cyrtacanthacris tatarica*.

Gryllus (*Locusta*) *tatarica*, Linnæus, Syst. Nat. (ed. x), i, p. 432, n. 46 (1788); Mus. Ludov. Ulric. p. 139 (1764).

|| *Acridium ruficorne*, Burmeister, Handb. Ent., ii, p. 630, n. 9 (1838); Stål, Rec. Orth., p. 60, n. 2 (1873); nec Fabricius.

|| *Acridium succinctum*, Serville, Ins. Orth., p. 642 (1839), nec Linnæus.

Hab. TRANSVAAL: Pretoria (*Distant*); Johannesburg; Barberton (*Rendall*); NATAL (A. R.).

The true *C. ruficorne*, Fabricius, is a West African insect.

101. *Cyrtacanthacris rubella*.

Acridium rubellum, Serville, Ins. Orth., p. 645 (1839); Stål, Rec. Orth., i, p. 62 (1873).

Hab. TRANSVAAL: Pretoria, Zoutpansberg (*Distant*); Barberton (*Rendall*); Delagoa Bay (*Distant*).

102. *Cyrtacanthacris variegata*.

Cyrtacanthacris variegata, Walker, Cat. Derm. Salt., iii, p. 557, n. 18 (1870).

Cyrtacanthacris internum, Walker, l. c., iv, p. 613 (1870).

|| *Acridium ruficorne*, Serv. (nec Fabr.), Ins. Orth., p. 643 (1839).

Acridium hottentottum, Stål, Rec. Orth., i, p. 62 (1873).

Hab. TRANSVAAL: Barberton; NYASALAND, Fort Johnston (*Rendall*).

This species varies in the number of spines on the hind tibiæ. The normal number on the outer carina is six, but some specimens in the British Museum have as many as nine.

103. *Cyrtacanthacris fascifera*.

Cyrtacanthacris fascifera, Walker, Cat. Derm. Salt., B. M., iii, p. 558, n. 20 (1870).

Hab. NYASALAND: Fort Johnston (*Rendall*); CONGO (*type*); ZULULAND; MOZAMBIQUE; NATAL; MOMBASA; MAURITIUS (B. M.).

104. *Cyrtacanthacris septemfasciata*.

Acridium septemfasciatum, Serville, Ins. Orth., p. 661 (1839).

Cyrtacanthacris purpurifera, Walker, Cat. Derm. Salt., iii, p. 561, n. 25 (1870).

Hab. TRANSVAAL: Pretoria (swarm, Nov. 1894) (*Distant*); NATAL: Durban (*Distant*), Pine Town (A. R.).

106. *Cyrtacanthacris subsellata*.

Cyrtacanthacris subsellata, Walker, Cat. Derm. Salt., iii, p. 559, n. 21 (1870).

Hab. NATAL: Pine Town (Coll. *Distant*).
Perhaps a form of *C. septemfasciata*, Serv.

107. *Cyrtacanthacris distanti*, sp. n.

♂ *Cyrtacanthacris prasina*, Walker, var. β , Walk., Cat. Derm. Salt., iv, p. 563 (1870).

♀ *Cyrtacanthacris auricornis*, var. (?), Walker, l. c. (1870).

Hab. TRANSVAAL: Pretoria (*Distant*); NATAL (*Gueinzius*).

Long. corp. 33-56 millim.; exp. al. 66-86 millim.

Light green, sides of pronotum narrowly edged before and behind with pink. These borders are connected below the median carina by a more or less distinct pink or brownish stripe on each side, and the front border is sometimes edged behind by a blackish line,

sometimes slightly expanded above, and sometimes indistinctly visible as a mere shading along the lower lateral border of the pronotum. Hinder pink border of the pronotum throwing up a short oblique branch at its lower extremity, not extending beyond the hinder sulcus. Hind lobe of the pronotum more coarsely punctured than the rest; prosternal tubercle moderately stout, long, conical, pointed, recurved, and touching the front of the pronotum in the female; in the male it is somewhat shorter, and less curved. Tegmina subhyaline-greenish, with greenish or whitish nervures, the longitudinal nervures, and the densely reticulated upper basal third of the anal area, inclining to reddish. Wings greenish-hyaline, with pale yellow longitudinal nervures; legs green; hind femora with a dark red line on the basal half of the outer carina; terminal lobe of the femora green, surrounded with black both within and without, except below; tibiæ green, black at the intersection with the femora, and generally with a pink ring half-way between the knee and the first spines, which are pale yellow, tipped with red, and which number six to eight on the outer carina, and eight on the inner carina. Tarsi sometimes red.

This insect may be a pale form of *C. prasina*, Walk., from which *C. auricornis* is scarcely distinct, but *C. prasina* has much heavier blackish markings on the pronotum, scarcely marked with red; the tegmina, except along the anal border, are thickly and uniformly reticulated with reddish, and the hind tibiæ and tarsi are entirely red, except the extreme base of the tibiæ, which is green, like the femora.

It is also probably allied to *C. deckeni*, Gerstaecker, which appears to be quite distinct from any species I have yet seen.

MONACHIDIINÆ.

Genus ABISARES.

Abisares, Stål, Bihang Vct. Akad. Handl., v (4), p. 29 (1878).

108. *Abisares viridipennis*.

Monachidium viridipenne, Burmeister, Handb. Ent., ii, p. 626, n. 5 (1839).

Hab. NYASALAND: Zomba, Fort Johnston (*Rendall*): NATAL (A. R.).

A very common species in East Central Africa.

CATANTOPINÆ.

Genus EUPROPACRIS.

Eupropacris, Walker, Cat. Derm. Salt., B. M., iii, p. 642 (1870).

109. *Eupropacris genuale*.

Acridium genuale, Walker, Cat. Derm. Salt., iv, p. 625 (1870).

This species was founded on a specimen from East Africa, of which almost every marking has been obliterated by spirit, except on the inside of the legs. Still, I cannot venture to regard the better-coloured specimens before me as new, so I append a fresh description.

Long. corp. 30-35 millim. ; 60-62 millim.

Female. Head yellow. Antennæ, a streak on the frontal ridge below the antennæ, the greater part of the spaces on each side between the inner and outer pairs of carinæ, several spots on the mouth-parts, and two short stripes behind the eyes, nearly connected by a streak beyond, all black. Vertex and pronotum with a broad blackish or reddish stripe, darkest in front, expanding from between the eyes to the extremity of the pronotum ; this is bordered on each side with yellow, separating it from a broad darker or paler-reddish band, bordered beneath with yellow, which runs obliquely across the pronotum and pleura, which are thickly rugose-punctate. Abdomen reddish or yellowish, with black sutures. Four front legs reddish, middle femora striped with yellow beneath. Hind femora yellow, the outer middle area with two blackish or reddish stripes, meeting at the extremity ; inner surface blackish or reddish, nearly to the knees, which are also blackish, or reddish, and sometimes preceded by a pale band. Hind tibiæ yellow above, and blackish below, or uniform reddish, as well as the tarsi. Tegmina dull red, with whitish reticulations ; costal area darker. Hind wings red, with red nervures, and subhyaline, especially towards the extremity.

Hab. NYASALAND : Zomba (*Rendall*) ; FWAMBO ; TANGANYIKA (B. M.).

Allied to the South African *E. spectabilis*, Walker ; and as regards the pattern of the head and pronotum, to *E. dominans*, Walk., from Silhet and Singapore.

Genus CATANTOPS.

Catantops, Schaum, Mon. Berl. Akad., 1853, p. 779 ; Peters' Reise Mossamb. Zool., v, p. 134 (1862).

110. *Catantops capicola*.

Acridium (Cutantops) capicola, Stål, Eugenie's Resa, Orth., p. 331 (1860).

Cutantops humeralis, Stål (an Thunberg?), Rec. Orth., i, p. 69, n. 1 (1873); Æfv. Vet. Akad. Förh., xxxiii (3), p. 40 (1876).

Hab. TRANSVAAL: Pretoria (*Distant*); NYASALAND (*Rendall*).

A somewhat variable species; the descriptions are very unsatisfactory, and I cannot identify any specimens with *humeralis*, Thunberg, or *distinguendum*, Stål. In two specimens, the dark band on the sides of the pronotum is continued to its hinder edge; but they do not otherwise differ from the rest of the specimens.

In another variety, the upper dark band on the femora is partially obliterated in front and within.

111. *Catantops vittata*, sp. n.

Long. corp. 19 millim.

Fawn-colour, with a black band slightly bordered with whitish running backwards from the eye in a straight line over the sides of the pronotum, and continued over the costal area of the tegmina. The upper half of the central area of the outside of the hind femora with a broad black stripe; inside apparently red, with two black spots; hind tibiæ mostly red, with black spines. Antennæ concolorous; frontal carinæ nearly obsolete.

Hab. TRANSVAAL: Pretoria (*Distant*); Delagoa Bay (*Distant*).

112. *Catantops decorata*.

Cutantops decoratus, Gerstaecker, Von der Decken, Reisen in Ost-Afrika, iii (2), p. 44, pl. iii, fig. 4 (1873); Stål, Æfv. Vet. Akad. Förh., xxxiii (3), p. 40 (1876).

Hab. TRANSVAAL: Pretoria (*Distant*); BRITISH CENTRAL AFRICA: Zomba (*Rendall*); NYASALAND: Fort Johnston (*Rendall*).

113. *Catantops melanosticta*.

Cutantops melanostictus, Schaum, Mon. Berl. Acad., 1853, p. 779; Peters' Reise Mossamb., v, p. 134, pl. VIIA, f. 5 (1862).

Hab. TRANSVAAL: Pretoria (*Distant*), Delagoa Bay (*Distant*); NYASALAND: Fort Johnston, Zomba (*Rendall*); SIERRA LEONE; CONGO (B. M.).

One of the commonest African species, and the type of the genus.

114. *Catantops urania*, sp. n.

Long. corp. 44 millim. ; exp. al. 77 millim.

Female. Brown ; vertex, pronotum and pleura rugose-punctate ; vertex, cheeks and pronotum with scattered black dots, especially towards the median line of the pronotum, where they are more or less continuous, and expand outwards in two diverging lines from before the hinder suture. Abdomen with a row of shining black spots on the back, decreasing nearly to the extremity. Hind femora yellowish, with the carinæ and angles of the central area dotted with black ; central area dull greenish, except on the sides and middle ; upper surface with two transverse black bands extending to the inner surface, the first about the middle, and the second half-way between this and the black knees ; under-surface black externally and red internally. Lower projecting lobes yellow. Tibiæ and tarsi vinous red, with two yellow spots towards the base, followed by a broader yellow band above ; nine white, black-tipped spines in the outer row, and ten in the inner. Post-sternal lobes subcontiguous. Tegmina brownish, subhyaline towards the tips, and more or less reticulated and mottled with darker brown transverse nervules. Hind wings pale blue, hyaline, with black nervures.

Hab. TRANSVAAL: Pretoria, Barberton (*Distant*) ; NYASALAND: Fort Johnston, Zomba (*Rendall*).

Allied to *C. spissa*, Walk., from West Africa ; but *C. spissa* is smaller, the wings are much less distinctly blue, and the pattern of the hind femora is different. *C. urania*, however, so much resembles the description of *Acridium arthriticum*, Serville, in almost every particular (size included), that I should have identified it with that species without hesitation, but that Serville's description of the hind legs of his *A. arthriticum* seems to agree with those of a *Calliptamus*. Can he have had a specimen of the present species with the legs of some large *Calliptamus* substituted for its own ?

The description of *C. urania* is taken from the specimen from Zomba.

Genus STENOCROBYLUS.

Stenocrobylus, Gerstaecker, Arch. f. Nat., xxxv, p. 219 (1869); Von der Decken's Reisen, iii (2), p. 45 (1873).

115. *Stenocrobylus* (?) *trifasciatus*, sp. n.

Long. corp. ♂ 18 millim., ♀ 22 millim.; long. al. ant. ♂ 9 millim., ♀ 14 millim.

Rufo-testaceous; antennæ black, except the basal joint in the male; the incisions very narrowly ringed with pale. A broad black stripe, bisected by the pale dorsal carina, runs from the back of the pronotum to the extremity of the scutellum of the vertex, where it ends in a point; there is also a black stripe on each shoulder, narrowed in front, extending behind the eye to the extremity of the pronotum; between this and the central band are some blackish dots at the back; and the sides of the pronotum and pleura are marked with scattered black dots. Tegmina with a short black stripe (sometimes obsolete) beyond the base of the costa, and a median black stripe, scarcely reaching the base, extending for about $\frac{1}{2}$ the length; above this is a row of partly-connected and variable black spots, and two or more black spots on the basal half of the anal area. Prosternal tubercle broad at the base, obtusely rounded at the extremity, and more slender in the male than in the female. Hind femora with three partly macular black bands, converging behind, on the outer central area; and the outer spaces above and below dotted with black; the upper and median spaces on the inner surface are also largely black, and the lower space dotted with black. Hind tibiæ with a black line above, and with eight black-tipped spines on the outer carina. Wings considerably shorter than the abdomen in both sexes.

Hab. TRANSVAAL: Barberton (*Rendall*).

Described from two males and four females.

There are several species allied to this in the British Museum, but with wings as long or longer than the abdomen. I refer them, with some slight hesitation, to Gerstaecker's genus *Stenocrobylus*.

The species nearest to *S. trifasciatus* is very abundant at Zomba, and I add a description below.

116. *Stenocrobylus* (?) *whytei*, sp. n.

Long. corp. 16-25 millim.

Testaceous, hardly shading into rufous. Antennæ black, except at the extreme base, vertex and pronotum with a double central stripe,

as in the last species, and with a narrow, sharply-defined, black shoulder-stripe running from the eye to the end of the pronotum. Sides of the pronotum with several large black spots round the edges, but otherwise, like the pleura, almost destitute of black dots, though coarsely punctured. Tegmina rather longer than the abdomen, with a black line on the costa towards the base, and a broad central black band, intersected by the pale longitudinal forking nervures. Wings hyaline. Legs thickly dotted with black, hind femora with a row of rather large black spots in the middle of the outer central area. Tibiæ blackish below, and with eight black-tipped spines on the outer carina. Prosternal tubercle conical, rounded at the tip, rather more slender than in the last species.

Found abundantly by Mr. A. Whyte at an elevation of 2000–3000 feet at Zomba in September (Brit. Mus.).

CALLIPTAMINÆ.

Genus EURYPHYMUS.

Euryphymus, Stål, Rec. Orth., i, p. 72 (1873); Öfv. Vet. Akad. Förh., xxxiii (3), p. 40 (1876).

117. *Euryphymus erythropus*.

Gryllus erythropus, Thunberg, Mém. Acad. Pétersb., v, p. 248 (1815), ix, p. 426 (1824).

Calliptamus (Euryphymus) erythropus, Stål, Rec. Orth., i, p. 73 (1873).

Hab. TRANSVAAL: Pretoria, Masil. Nek (*Distant*).

About twenty specimens. The black pattern on the back of the pronotum varies a little in form, sometimes extending to the back of the pronotum; but it more frequently ceases before reaching the extremity.

Genus CALLIPTAMUS.

Calliptamus, Serville, Ann. Sci. Nat. xxii, p. 284 (1831);
Ins. Orth. p. 686 (1839); Stål, Öfv. Vet. Akad.
Förh., xxxiii (3), p. 43 (1876).

Caloptenus, Burmeister, Handb. Ent., ii, p. 637 (1839).

118. *Calliptamus antennatus*, sp. n.

Long. corp. 16 millim.

Male. Testaceous. Antennæ black beneath, frontal ridge mottled,

distinctly marked with blackish, and a black band, widening hindward, extending backwards from between the eyes, over the occiput and pronotum, but having a moderately broad pale border on each side. Sides of head with a black stripe running down from the eye, and another further back, with a whitish stripe between them; sides of pronotum with two whitish and three blackish stripes, the lowest of the latter triangularly expanded; beneath it the colour is testaceous, as is also the hinder lobe of the pronotum, which is more strongly punctured than the rest. Pleura testaceous, mottled with black. Hind femora testaceous; on the outer side are three short blackish longitudinal marks on the middle of the central lobe; the spaces between the lower carinæ are black on the outside, and red on the inside, inner surface of the hind femora black to the middle, after which follows a pale space, and another longitudinal black one, ceasing before the hinder lobe, which is concolorous, being only marked with a blackish stripe on the inside at its base. Hind tibiæ coral red, with nine yellowblack-tipped spines on each carina. Tegmina longer than the abdomen, yellowish subhyaline, with large reticulated blackish spaces on the median line, separated by pale spaces; anal area pale. Wings probably hyaline, tinged with red at the base.

Hab. TRANSVAAL: Pretoria (*Distant*).

Allied to *C. hottentottus*, Stål.

119. *Calliptamus tibialis*, sp. n.

Long. corp. 32 millim.; exp. al. 63 millim.

Female. Head testaceous; the middle of the frontal ridge, a line on the outside of its lateral borders, and two lines below the eyes, more or less blackish; cheeks sometimes with a whitish bloom, which extends to the hinder suture on the sides of the pronotum. Pronotum narrowed in front, a slight depression on the vertex between the eyes at the narrowest part; the dark band on the frontal ridge broadens behind it over the pronotum; the sides, lateral lobes, and terminal carina (which is obtusely produced and rounded off in the middle above) testaceous; two slightly oblique black stripes on the sides of the pronotum from the front to the hinder suture, the uppermost broadest. Tegmina brown, varied with yellowish and whitish subhyaline spots and transverse stripes; towards the tips largely subhyaline; a testaceous stripe (seen in closed specimens to be the continuation of the pale sides of the pronotum) occupies the upper and outer part of the anal area of the tegmina; wings hyaline. Hind femora above yellowish, with two or three blackish bands, and also with blackish mottlings and black dots on the carinæ, but all more or less indistinct. Inner and lower

side red ; outer median area glaucous-white, the upper and sometimes the lower bounding carinæ spotted with black ; central area glaucous-white, the angulated lines yellowish, with about six ill-defined blackish dots on each. Hind tibiæ and tarsi red ; tibiæ rather hairy, with about seven black-tipped spines on each carina.

Hab. TRANSVAAL: Pretoria ; Waterberg, Warm Baths (*Distant*) ; PEMBA ISLAND (*Burtl*).

A very distinct species. Described from seven specimens from Pretoria, one from Pemba Island, and one from Waterberg ; the last is rather darker-coloured than the others. There are also four specimens from Zomba in Mr. Distant's and the British Museum Collection, which differ in their generally darker colour ; the upper black stripe on the sides of the pronotum extends more or less distinctly to the front, and sometimes backwards to the hinder extremity of the pronotum ; the black markings on the upper surface of the hind femora are more clearly defined, and the middle area on the outer side is sometimes suffused with black ; and the pleura and abdomen are more or less varied with black. In one specimen the hind tibiæ are vinaceous, with traces of one or two yellowish bands towards the base, not extending to the upper surface. But *Orthoptera* are so liable to change colour more or less after death that I do not consider these differences of sufficient importance to indicate even a well-marked local form.

In one specimen from Pretoria the pronotum is dark brown above on the sides, as far as the lateral carinæ, and reddish along the central carina ; and in the Pemba Island specimen, the pronotum is reddish-testaceous above, and though the front part is blackish, the black is not symmetrical, and appears to be due to accidental discoloration.

Genus CALOPTENOPSIS.

Caloptenopsis, Bolivar, Journ. Sci. Lisb. (2), i, p. 173 (1889).

120. *Caloptenopsis fratercula*, sp. n.

Long. corp. ♂ 18 millim. ; ♀ 23 millim.

Testaceous ; sides of head, pronotum, and outer and lower part of hind femora more or less glaucous-white. Head mostly testaceous ; central ridge sulcated above between the eyes ; the lower part with traces of a double black central line, and border-lines ; one black line

below the eye ; sides of head indistinctly mottled with black, pronotum with an expanding brown band above, sometimes intersected by the pale central carina, and broadly bordered with paler ; sides of pronotum mottled with black, and with one or two short, slightly oblique white stripes, alternating with black ones, on the lower part of the sides in front ; hinder edge with distinct black dots. Hind border of pronotum above almost rectangular. Tegmina pale testaceous subhyaline, central area with a row of black spots separated by subhyaline transverse stripes, and increasing in size to the middle, and then diminishing ; on the outer third is a double instead of a single one. Costal and anal area with a few black spots ; anal area black below at the base. Wings hyaline, with a slight bluish tinge. Sides of abdomen with a double row of brown dots ; hind femora on the middle outer area glaucous-white, with black spots on the angular striae ; or with alternate tawny and bluish-white striae, the former spotted with black. Upper surface of hind femora testaceous, with three black bands ; inner surface black, with a testaceous space between this and the knee, which is usually heavily and extensively marked with black, and throws off a short black line below the lower central carina. Hind tibiae testaceous, with seven black-tipped spines.

Hab. TRANSVAAL: Pretoria (*Distant*); Delagoa Bay (*Distant*).

Described from eight specimens.

Resembles *Calliptamus hottentottus*, Stål, superficially, but that species has the wings tinged with red instead of blue. In one specimen, the dark mark usually filling up the centre of the pronotum is absent, though the corresponding mark on the back of the vertex is present.

121. *Caloptenopsis uniformis*, sp. n.

Long. corp. 19-23 millim.

Head with the narrowest space between the eyes, and the frontal curve above the antennæ, with a long excavation between two parallel carinæ ; the frontal ridge between and below the antennæ entire, punctured. Rufo-testaceous ; face, sides of head, pronotum, pleura, and legs more or less varied with glaucous-white. Pronotum above smooth, without black markings, rarely longer than broad, except that it is rectangularly produced behind ; sides subparallel, very slightly approximating in front, the lateral and terminal carinæ slightly marked with yellow, upper part of sides of pronotum blackish below the yellow carinæ. Tegmina reddish, with some

indistinct transverse subhyaline markings; costal and apical third hyaline; anal area probably green in life. Wings hyaline. Hind femora glaucous on the outer side, the carinæ and transverse curves rufous; upper carinæ serrated. Inner surface black, with a yellowish space before and around the deep black crescent on the terminal lobe; a black line extends from it for a short distance on the outer side below the lower median carina. Tibiæ and tarsi yellowish (reddish during life?) with black-tipped spines, six or seven on the outer, and seven on the inner carina. Prosternal tubercle transverse, not narrowed at the extremity. Terminal spines on the inside of the hind tibiæ long, hairy, the second considerably longer than the first.

Hab. TRANSVAAL: Pretoria (*Distant*).

Described from three males and one female.

Closely allied to *C. fratercula*, but apparently distinct.

EUPREPOCNEMINÆ.

Genus HETERACRIS.

Heteracris, Walker, Cat. Derm. Salt., iv, p. 655 (1870).

|| *Demodocus*, Stål (*nec* Guérin, 1842), Bihang Vet. Akad. Handl., v (4), p. 75 (1878).

Walker's genus *Heteracris* is very heterogeneous; but as Stål's name *Demodocus* is preoccupied, it will be convenient to retain Walker's name in this restricted sense, rather than to impose a new one, as twelve out of Walker's forty-three species appear to belong to it. *Acridium herbaceum*, Serville, may conveniently be regarded as the type.

122. *Heteracris cognata*.

Heteracris cognata, Walker, Cat. Derm. Salt., B. M., iv, p. 658, n. 6 (1870).

Hab. TRANSVAAL: Barberton; NYASALAND: Fort Johnston (*Rendall*); NATAL (*Gucinzius*; B. M. types).

The disc of the hind femora is infuscated on both sides in the specimen from Barberton, but this is not the case in the types, with which it otherwise agrees very well. Walker's types are rather larger than Mr. Rendall's specimens, and the colour of the hind tibiæ is indeterminate (probably faded); in the latter they are blue, with a broad pale band near the base.

123. *Heteracris bettoni*.

Heteracris bettoni, Kirby, Proc. Zool. Soc. Lond. (1902), (incl.).

Hab. TRANSVAAL: Pretoria (*Distant*), Delagoa Bay (*Distant* and *Muir*); NYASALAND: Fort Johnston (*Rendall*).

A species widely distributed in East and Central Africa, easily recognized by the usual dark band ceasing in the middle of the hinder lobe of the pronotum, instead of extending to the extremity.

Genus EUPREPOCNEMIS.

Eyprepocnemis, Fieber, Lotos., iii, p. 178 (1853).

Eupropocnemis, Stål, Rec. Orth., i, p. 75 (1873).

124. *Euprepocnemis pulchripes*.

Caloptenus pulchripes, Schaum, Monatsber. Akad. Berl., 1853, p. 779; Peters' Reise nach Mossamb. Zool., v, p. 138, pl. VIIA. fig. 7 (1862).

Hab. TRANSVAAL: Barberton (*Distant*); NYASALAND: Fort Johnston (*Rendall*); MOZAMBIQUE (*Schaum*).

A single male specimen from Barberton of a species which seems to be somewhat rare. The antennæ are thickened in the middle, with long moniliform joints. Schaum describes and figures a female. There is also a single faded specimen from Fort Johnston.

125. *Euprocnemis ornatipes*.

Cyrtacanthacris ornatipes, Walker, Cat. Derm. Salt., iv, p. 575, n. 50 (1870).

Hab. NYASALAND: Fort Johnston (*Rendall*).

Walker's type is a female without locality, but I believe I am correct in referring the single male specimen obtained by Mr. Rendall to the same species.